BUTANE-PROPANE News

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OCTOBER 1942

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PRESSED STEEL TANK COMPANY

General Offices and Plant: 1487 So. 66th St., Milwaukee, Wis.

Containers for Gases, Liquids and Solids

FISHER

REGULATORS AND ACCESSORIES AVAILABLE FOR PROMPT SHIPMENT

Fisher Governor Company can still supply you with standard types of L.P.G. regulators, regulator assemblies, and accessories. Your orders for this equipment must carry proper certification manually signed in accordance with General Limitations Order No. L-86.

The entire manufacturing facilities of Fisher Governor Company are now devoted to vital war production. However we have on hand a stock of L.P.G. regulators and accessories that were manufactured and assembled before the issuance of Order L-86 and which, we believe, will take care of your limited requirements for the "duration". Furthermore, the shipment of these regulators will in no way interfere with our all-out war production effort, nor will it draw on the supply of critical raw materials and manpower.

We urge that you familiarize yourself with General Limitations Order L-86 (copy sent on request) and cooperate by conforming to the requirements of same when placing your order. In turn we assure you of the best possible service in handling your order.

FISHER GOVERNOR COMPANY

941 Fisher Building • MARSHALLTOWN, IOWA

BUTANE-PROPANE News

Reg. U. S. Pat. Off.

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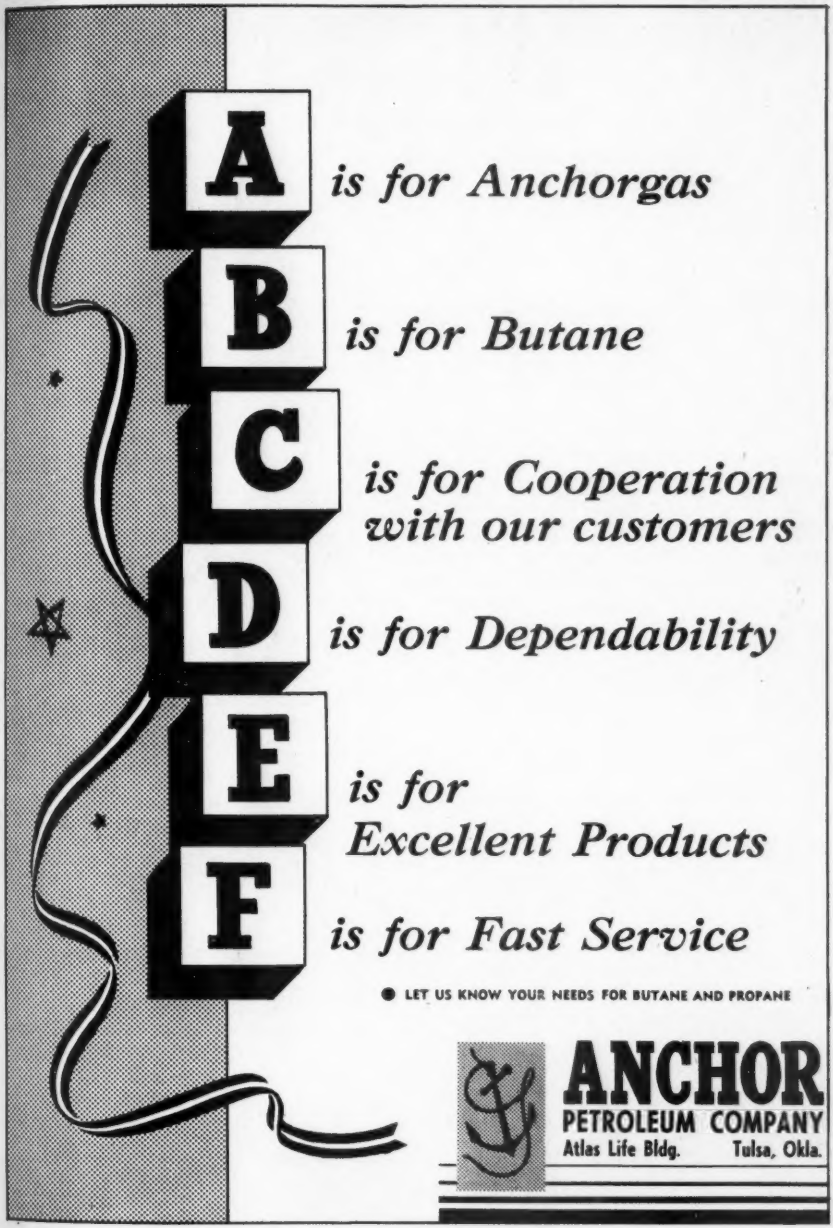
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D is for Dependability
E is for Excellent Products
F is for Fast Service
LET US KNOW YOUR NEEDS FOR BUTANE AND PROPANE
ANCHOR
PETROLEUM COMPANY
Atlas Life Bldg. Tulsa, Okla.

LETTERS

Mr. Jay Jenkins, President
BUTANE-PROPANE *News*

Dear Mr. Jenkins:

The editorial entitled "A Job Well Done" in the September issue of BUTANE-PROPANE *News* has just been read and I wish to say "Thank you." At the same time, I hasten to call your attention to certain facts.

Had it not been for a sympathetic desire to understand the problems of this young industry, a willingness to assist this industry in its adjustment to war conditions and a sincere appreciation of the value of this industry to America at War on the part of the many others in Government war service, my time and energies would have been hopelessly spent.

Likewise, had the activities of those engaged in the LP-Gas business not been in keeping with the intent of the various restrictive and limiting orders that were placed upon them in the interest of the war program and had their general conduct not reflected a patriotic desire to cooperate in this program, the problems of the industry would have been indeed difficult to deal with.

As regards a job being done, in reality, no LP-Gas or any other gas man's job is ever done. Taking care of the customers that were acquired in the past is an endless job with the responsibilities of service even greater during these times than normally. These LP-Gas customers must be served with the same assurance of service as any others who depend on gas to use in their strictly gas appliances.

The production of modern war equipment has made and is making new demands upon the LP-Gas industry and bringing new responsibilities and problems. The job enlarges.

It seems therefore that no gas job is really done until this war is won—and then a new LP-Gas job begins.

Sincerely yours,

Woodward Martin

Manager, Stargas Department
Lone Star Gas Company
Dallas, Texas

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Gentlemen:

We are interested in converting a few of our motors that we have to operate with LP-Gas. It would be greatly appreciated if you will cooperate with us and send us information that you have on this matter.

Charles J. Grillo

Flower City Amusement Co.
Rochester, New York

Conversions of automotive equipment to burn butane gas are ordinarily very feasible and generally result in substantial saving of oil and replacements, but it is probable that you will find difficulty at this time in securing the necessary equipment, due to war limitations on the necessary materials.

However, here are the names of some of the firms who make automotive changeover equipment: Ensign Carburetor Co., 7010 South Alameda, Huntington Park, Calif.; American Liquid Gas Corp., 1109 Santa Fe, Los Angeles; Roadmaster Products Co., 2316 South Flower, Los Angeles.—Ed.

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Gentlemen:

The attached letter was received in our mail, the writer being a customer of some several years' standing and as it was strictly voluntary on the

customer's part we thought you might be interested in reprinting same for your next issue.

The industry could certainly use many more service men of this type, who, of their own accord, are interested in seeing that all customers are 100% sold on their service.

J. C. Beatty
Rulane Gas Company,
Charlotte, North Carolina

"Gentlemen:

"I just want to take this occasion to compliment you on your representative, Mr. Hamby, who came out to my house today and helped me considerably in saving money in Rulane gas for our home.

"He made a thorough test from "A to Z", and thoroughly explained to me the whole situation, also drained my hot water tank of the muck and mire, and was very helpful all the way round.

"I wish there were more representatives like this throughout the country, which would make it a much pleasanter world to live in.

"Very truly yours,
"Stokely and Moody
"Harry F. Stokely"

It was very thoughtful of you to send us the letter from Mr. Stokely. Have other dealers evidences of good service rendered?—Ed.

•

Gentlemen:

We are wondering if you happen to have any form of a sort of resume of all the WPB orders relating to the industry, though we hardly know just which numbers to ask about. We have not had anything definite, for instance, about any freezing orders, though we have had others tell us that such-and-such an order says so-and-so, when we have not heard anything.

If you can help us, or tell us where we might procure such a resume, we shall appreciate your advising us.

J. R. Freeman
McKeown-Freeman, Inc.
Spartanburg, South Carolina.

We are sending you tear sheets from recent issues of BUTANE-PROPANE *News* covering War Production Board orders affecting the LP-Gas industry. We particularly call your attention to the summary of orders appearing on Page 15 of the July issue. Details regarding those orders will be found in the other enclosures.—Ed.

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Gentlemen:

We are going to put in a bulk plant for the distribution of bottled gas to the dealers in this area. We realize that we cannot get equipment until after the war but we are making our plans now so that we will be ready to go ahead when the time comes.

There is no bulk plant within an area of 50 miles of Rochester and a number of our dealers have asked us to go into this business.

We have your 1942 Catalogue of LP-Gas Appliances and Equipment and if you can recommend any manufacturers who will be of mutual benefit, we will be glad to have you advise them of our intention.

John B. Kemp
Kemp Equipment Company
Rochester, New York

In our 1942 Catalogue which you state you have, there will be found the names of suppliers of equipment such as you will need, and we are confident of the reliability of every firm whose name appears therein. You will also find in BUTANE-PROPANE *News* the names of manufacturers of equipment such as you seek.—Ed.

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Gentlemen:

Will you kindly invoice us for renewed subscription to your very fine magazine.

Our experience, both as an advertiser and from the standpoint of available news, has been most gratifying.

F. A. Henninger
McNamar Boiler & Tank Company
Tulsa, Oklahoma

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• **BUTANE-PROPANE *News* welcomes letters from our readers, but it must be understood that this magazine does not necessarily concur in opinions expressed.—Editor.**

ELLSWORTH L. MILLS

Guest Editor for October

Let Us Face the Facts

By ELLSWORTH L. MILLS
Vice President, The Bastian-Blessing Company, Chicago

OUR country is faced with a shortage of heat and power so serious that rationing is threatened in some localities. This, despite the fact that we have plenty of coal and oil and admittedly there is a surplus of LP-Gas. The difficulty is due to a shortage of transportation facilities.

There is a constantly increasing demand for heat and power in rapidly expanding war production plants; a new market for heating and cooking fuel in the many army camps, flying fields and naval training stations that are being established all over the country, and a growing necessity to provide heating and cooking fuel for the population which has shifted to new localities to engage in war production work. In serving these markets, the use of critical materials needed in the prosecution of the war must be avoided.

This situation offers our industry a golden opportunity. LP-Gas is ideal for many industrial applications, including heat treatment, stress relieving, annealing, paint drying, metal cutting and car heating. It is a clean, quick and efficient fuel. It is more economical than other fuels in isolated war industries and surrounding localities and in outlying camps. Its use is thrifty because there is an excess supply which, unlike coal and gas, cannot be saved for future use; and no great demand would be made upon critical materials for installation because distributors' and dealers' inventories reveal several million dollars' worth of LP-Gas equipment fabricated and ready for use.

Members of the industry who will analyze this situation and work the part which LP-Gas can serve economically, will contribute to the war effort, keep their businesses intact, and have their "fences mended" for the period that follows the war.

In 194_? you will be showing Caloric's "Range of the Future"

What will the Caloric dream range of the future be like? Caloric research engineers and designers are now working out some of the answers. And their research will continue, even though all Caloric *production* must now be on essential war materials.

It will be months, perhaps years, before we can actually produce this range. And in the meantime we hope that many Caloric dealers, themselves, will suggest ideas for the "Range of the Future."

Will you put on your
THINKING CAP?

CALORIC
GAS RANGES

CALORIC GAS STOVE WORKS • PHILADELPHIA, PA.

MAINLY BEYOND THE MAINS

The Month

The next thing to turn up in the mail of LP-Gas operators will be a questionnaire that is being prepared by the Compliance Branch of WPB, designed to be submitted eventually to the entire industry. WPB disclaims suspicion that there has been any general flouting of the provisions of Order L-86, and the Compliance inquiry is supposed to be more-or-less routine stuff. However, applications for additional steel cylinders have been running heavier than would appear to be necessary, in view of the limited number of new authorizations to install LP-Gas equipment on PD-397 requests, and the question naturally arises, why are these new cylinders needed since very few would be required to take care of the additional systems that have been allowed? We recommend that dealers get their information on present load, and number of accounts, ready, and that when the questionnaires come through they lay it on the line—straight.

The new PD-397 form Revised is speeding up the job of processing requests in the LP-Gas Section of WPB. Applications that under the old form took a week to get through are often moving out, either granted or denied, within twenty-four hours. Some forms are being delayed because the dealers haven't read the instructions. The *Applicant* is the dealer, and not the prospective user of the equipment, who is referred to as the *Consumer*. OPM has been processing applications sent in on the old forms, but from here on out only those on the new PD-397 will be considered. The old ones will be bounced back to the applicant to be made right.

The project of forming an Industry Advisory Committee on LP-Gas in WPB is still in the stage of trying to select names of persons who would be competent to give some advice on the industry. This shouldn't be too big a job, but the LP-Gas Section has proceeded with caution verging on slow motion. Chances are, the final selections will have the benefit of informal suggestions from the LPGA, which if heeded should insure the right kind of industry representation on an important job. To do the job right, two committees might well be formed—one consisting of LP-Gas marketers and the other of manufacturers of gas appliances and equipment. WPB bogged down once as the result of assuming that appliance manufacturers could speak for LP-Gas operators; there isn't much sense in making the same mistake simply by reversing the positions of the two interests.

OPC is having more to say about the granting of applications for new installations, particularly on industrial jobs. WPB has discovered that the availability of gas is an important factor where an anticipated load of thousands of gallons a month may be under consideration, and that it isn't simply a question of whether the critical materials in steel tanks, pipe and fittings can be spared.

Shops servicing gas and electrical appliances are required to now have on file with their local War Price and Rationing Boards statements showing the highest prices charged for servicing during the month of March 1942. The idea is that charges for servicing appliances must not exceed these ceiling prices. Unless some exceptions are granted, this also means that LP-Gas operators who serviced appliances at a loss or free, must continue to do so. The full order is found in OPA Maximum Price Regulation, No. 165, as amended.

An amendment is expected to order L-173 which cut off the manufacture of all space heaters, exempting unit heaters from the terms of the order, at least for a limited time. Manufacturers of domestic types have been allowed some leeway on specific appeals, permitting them to complete the assembly of heaters for which partially and completely fabricated parts were already in stock.

Two amendments to the refrigerator price regulations of OPA permit the manufacturers and distributors to pass on a portion of the warehousing expense on frozen stocks to the dealers. The dealers, however, are not permitted to mark up the retail price by the amount of the increased cost to them of any refrigerators they may be able to buy from either manufacturer or distributor. Servel, however, has notified all of its accounts that it is not passing on the warehousing charge and that any refrigerators shipped will be at the list prices issued last fall. LP-Gas dealers handling both gas and electrical refrigerators might well call the fairness of Servel's attitude to the attention of the manufacturers of electric boxes.

The Facts Will Do

War agencies in Washington have one attribute in common, and that is a mistrust and fear, amounting almost to a phobia, of any statement being made to industry that might be regarded as optimistic on the outlook for any continuance of civilian services. Objections are always based on the contention that such statements might contribute to the complacency of some segment of the business public, might create a false optimism, might tend to underemphasize the grave nature of the task of winning the war.

We defer to the obvious necessity of withholding information occasionally gleaned, the release of which would be of no benefit to the LP-Gas fraternity

at large, and might embarrass or handicap the administrators in the performance of the Herculean task that lies before them. But we have always cherished, and we continue to entertain the private opinion, that most business men, and certainly those who take the time to read their trade publications, are men of adult mentalities, and we propose to address them as such.

Thus, when we say that in our best opinion the supply of butane will remain adequate for normal requirements, at least as far ahead as we can now see, we we are making a simple and forthright statement of the facts as we see them. We are not predicting that there will never be a shortage, and we are not trying to promote the idea that as far as LP-Gas is concerned the war has already been won. We are ever willing to string along with the experts who say that, on the contrary, so far we have been losing rather than winning the opening rounds of the conflict.

We string along, but at the same time we cannot picture to ourselves the spectacle of America vanquished because of the failure of American industry to respond to the call of patriotism. The picture indeed has been quite the reverse; industry has responded wholeheartedly and has struggled manfully to perform the tasks imposed on it, asking only, as any good soldier might, what are the orders of the day?

Faithfully, we trust, we have relayed those orders having bearing on our industry to the readers of BUTANE-PROPANE *News*. We do not believe that compliance has been 100%, nor do we believe that any realist could ever have hoped it to be at the outset. The industry has suffered not only from the inevitable dislocations and limitations that are part of war necessity, but from early official ignorance of the true scope and the nature of butane and propane operations on the part of those who were responsible for the orders under which the industry now operates. Past failures to comply fully with the spirit as well as the letter of the law had its roots not so much in disregard or disrespect for the law, as in a misunderstanding of its range and application. To the extent, and as rapidly as misinterpretations were corrected by responsible government officials, prompt and even cheerful compliance has been the result.

We, along with hundreds of other trade publications throughout the country, have accepted calmly the necessary role of croaking ravens of bad news for our industry. But when the facts as we see them warrant an optimistic note we see no necessity of withholding it—on the contrary we regard it as an essential contribution toward the morale of those who can fight the battles of civilian life best when they are armed with the invincible weapon of Truth.

Butane Weed Burner Patrols 150 Miles of Arizona Canals

By W. T. JOPLIN
Vice President, Butane Corporation, Phoenix, Arizona

A FARMER who was entertaining a preacher for the day took him out into his orange grove. It was a beautiful grove with not a weed to be seen. The limbs on the trees were groaning under the heavy load of golden fruit. The preacher, upon surveying the surroundings, lifted his eyes heavenward and remarked, "What great things the Lord does." "Yes," said the farmer, "but you can include me in that, too. You should have seen the weeds in this place last year when the Lord farmed it alone."

W. T. JOPLIN

Fight Against Nature

Some of the greatest things we have in the world are man-made and yet everything that man has made must be maintained; a ceaseless struggle is ever existent between man and nature, man striving to maintain those things he has built and nature trying to revert them back into their original state.

Fertile Arizona is man-made. Until man built the huge dams, great canals and laterals, most of this area was desert, growing nothing except desert plants which require very little water. While these improvements were made at a tremendous cost, it also requires a great deal of time, expense and effort to prevent it from returning to its original state.

Growth Would Ruin Crops

Hundreds of miles of canals, laterals and sub-laterals ply through the Salt River Valley. One of the biggest problems is to keep the weeds from the inside of these waterways. The canals, always full of water, give a ready supply to the weeds and grass which grow on the banks. If these were left to grow, within a very short time, the canals would be clogged, overflows would occur, dikes would be damaged and crops ruined.

The solution of this problem was first attempted by putting hundreds of workers along the waterways with scythes to keep the weeds and grass in check. This expense cut heavily into the farmers' profits.

Later improvements provided for the building of roads along the side of the ditches to permit the use of horse-drawn mowers. The next development was the use of small hand burners supplied with fuel

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A close-up of the burner in action.

▼

from containers of either oil or gasoline strapped and carried on the workers' backs. This also proved to be very expensive because of the small area a man could burn in a day, not to mention the hazard of gasoline or oil leaking on the worker's clothing, subjecting him to a great danger with every change of the wind.

Still later, some of the larger users equipped trucks with oil tanks and by installing a boom to carry the weight of heavy burners, fuel could be supplied through hose to the burners and by placing a worker on either side of the ditch and suspending the weight of the heavy burners by chains from the boom, the worker walked along the water's edge, maneuvering the burner back and forth, and up and down, the ditch bank. It was impossible for a worker to stand this very long at a time as it required a continuous walking and continuous arm movement which was equivalent to the old fashioned treadmill as a man-killer. This method, which was the best that had been proposesd up to that time, required six men who could average burning about three miles per day.

Bench Tests Justify Equipment

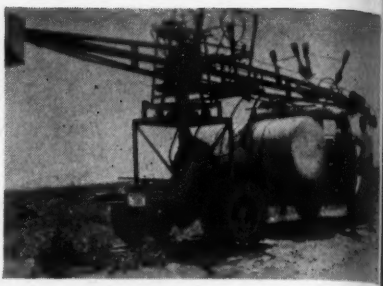
Some four years ago, our engineers were called in consultation with engineers of the Maricopa Reservoir & Power Co., who faced the problem of keeping the weed menace to a minimum over about 150 miles of canals, laterals and sub-laterals. First, bench tests were made to determine the efficiency in withering and destroying weeds and when this proved to be satisfactory, this company decided to build a weed burner which would not only handle the job but would handle it efficiently and economically.

After developing the proper burners, we took an old truck and mounted a 300-gal. butane tank on

it and built a counter balance boom with platform and seat for the operator, who sits up above the ditch, high enough to see the operation on both sides of the canal. From this point controls, easily accessible, make it possible to control the lowering and raising, the speed with which the burners sweep the banks, as well as the position of the burners. The operator also controls the pressure at burner heads from 0 to 80 lbs., the lighter pressures being used where weeds are thin and scattered to effect a further savings in fuel. They are controlled from a vacuum on the motor connected to a booster cylinder which is plainly visible in the picture located on the outmost end of the boom.

The crew consists of a man to drive the truck, one operator and a relief operator who also follows behind the burners putting out small fires that might start from dry grass or weeds on top of the bank. These three men average five miles burning per day at a total operating cost, including depreciation, of less than $5 per mile.

The burner as it moves along the canal bank burning the weeds.

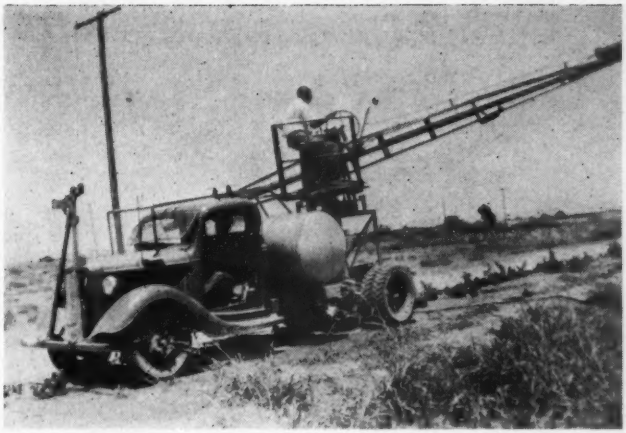


Rear view of weed burning machine, folded up and moving to new location.

The accompanying pictures were taken while the burners were going full blast. There is absolutely no smoke to be seen. In fact, there was considerable skepticism in the early stages of this development because the operator could see no smoke and did not feel the burners were functioning, often raising them to determine if the flame had been extinguished.

Rig Handles Easily

The entire burner hookup can readily be turned and lowered onto the truck with the boom resting on the front rack built on the motor frame, in less than five minutes—all done by the operator from his control position. The truck can then move on down the road to another location at a speed of 20 to 25 miles an hour. Within five minutes after arriving at the new location, the operator has his boom set up. His assistant throws the lighted paper into the canal, to



The burner in action, showing operator and front of rig.

operator turns on the gas, throws the burners into the flame and they are off again to weed burning. When the day's work is done, they simply shut off the burners, climb down from the control platform and come in. The next morning the operator mounts to his station, his helper lights the burners, the driver starts the truck (which also runs on butane) and they are off—the whole day ahead of them for weed burning. There is no time lost opening clogged lines, starting compressors or cleaning burners.

Repays Cost First Year

The entire rig, including cost of truck, is less than $2500 and, while projected figures indicated that the entire cost of the rig could be saved in two years, they now find that the saving will nearly, if not entirely, equal the cost of the rig through this first year.

More study is being given to development of burners which will utilize to better advantage the heat from the burner, as well as the flame, directed against the weeds. However, even as it is, there is no doubt in the mind of this concern that this butane weed burner has proved itself highly successful, entirely satisfactory, and economical beyond their fondest hopes.

The Pacific Electric Co., Los Angeles, uses a butane burner attached to the front of car for cleaning the right-of-way of weeds and grass.

Refrigerator Sales Opened Up By War Production Board

OF universal interest to LP-Gas dealers is Amendment 2 to Limitation Order L-5-d issued Sept. 5 by the War Production Board, which releases for retail sales at previously established prices all new gas and electric refrigerators carried in stock since the date of the original freeze order, Feb. 14, 1942. Kerosene refrigerators are not released by the order.

Not only may dealers sell stocks on hand but additional refrigerators may be ordered from the manufacturer providing such orders do not constitute more than 2% of the total number purchased from the manufacturer in 1941.

Sales must be made through regular channels. This means that dealers may sell unreservedly from their stocks and distributors may sell in like manner to dealers but distributors cannot sell all of their refrigerators to consumers if that was not their regular way of doing business prior to the freezing order.

When sales are made to ultimate consumers there must be secured from every transferee a statement substantially as follows:

> "The domestic mechanical refrigerator being transferred is for my personal use (or for the use of my family, or my tenants). I have no other domestic mechanical or ice refrigerator at my disposal (or, I have disposed of any domestic mechanical or ice refrigerator which has been at my disposal since Feb. 14, 1942, to a dealer or consumer)."

In a bulletin issued by Servel, Inc., discussing the new order, are the following statements of particular importance to dealers selling Electrolux gas refrigerators:

"In addition to the release of all refrigerators except kerosene in the hands of dealers and independent distributors, a very limited number of deluxe models have been released out of the inventory of manufacturers and affiliated branches. In our case this represents considerably less than 2% of our sales in 1941, numerically speaking. We are permitted to sell only 800's and 800A's with a very few N-600's. We are specifically instructed in the release to distribute these in proportion to the distribution of refrigerators by us in 1941. . . . This release will completely exhaust our stock of 800's and 800A's, after which there will be no more of this model available."

"Regardless of your inventory condition nothing in the present amendment to L-5-d affects the status of the Army, Navy, Marine Corps, Coast Guard, etc., who are still permitted to buy without any certification required, and whose needs may be supplied through you by the purchase of any refrigerators from our inventory, regardless of size. Furthermore, forms PD-427 indicating requirements of such classifications as defense housing, public health, etc., are still the instrument of active use and should be used in securing all refrigerators over and beyond your present

inventory, as well as beyond the number released from our inventory for such classification needs."

Amendment No. 4 of Revised Price Schedule No. 102 provides that four-fifths of 1% per month of warehouse charges accumulated between Feb. 14 and Sept. 13 may be charged to dealers and distributors, manufacturers bearing the final one-fifth, but that in no case shall such warehouse costs be added to the retail price of merchandise. However, Servel, Inc. has announced that no warehouse charges on Electrolux refrigerators will be charged to distributors or dealers and new orders will be billed at the established list prices issued last Fall.

◆ ◆

OPA Makes Legal Definition Of "Person" for Price Rulings

The Office of Price Administration on Aug. 12 adopted a common legal definition of the term "person" to apply generally in OPA price regulations issued up to now. The action was taken in Supplementary Order 12.

The definition reads: "The term 'person' includes an individual, corporation, partnership, association, or any other organized group of persons, or legal successor or representative of any of the foregoing, and includes the United States or any agency thereof, or any other government, or any of its political subdivisions, or any agency of any of the foregoing."

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Purchasers of Businesses Bound by Former Prices

Purchasers of business enterprises involving petroleum or petroleum products are required to conform to the maximum prices established by the former owners, according to a ruling of the OPA.

WPB Rules No Copper For LP-Gas Installations

The War Production Board has ruled that supplementary Conservation Order No. M-9-c-4, issued on last July 22, applies to copper tubing used in the installation of LP-Gas equipment and appliances. The original order prohibits any purchase for installing in or connecting to a building any copper base alloy pipe or tubing for use as a service line or for plumbing or heating purposes except when such installations constitute repairs of similar materials (not in excess of 25 lbs.), when purchased for government uses, or for installations approved by the Director General of Operations.

Approval of PD-397 requests for exemption from Order L-86 does not authorize the use of copper tubing unless specifically so stated.

All stocks of copper or copper base alloy pipe and tubing are now frozen. If LP-Gas dealers wish to dispose of any such materials on hand, they should address Copper Recovery Corp., 200 Madison Ave., New York City, and ask for WPB forms 843-A, 843-B, 843-C, 843-D. Offers of purchase of these materials by the government will be in effect for a limited time.

◆ ◆

New Inventory Regulations May Exclude LP-Gas

The War Production Board has approved a plan to regulate inventories of finished civilian goods in the hands of wholesalers and retailers, Chairman Nelson announced Sept. 5, adding that the Board is working on steps looking toward the balancing and limiting of such inventories.

It has been recommended, however, that merchants handling fuel, and refineries or processors of petroleum products, be exempt from the order, which may become effective about next Jan. 1.

Wilson Hall, which is the girls' dormitory of Northeastern State Teachers College. Tahlequah, Okla. In the basement are the kitchen, bakery and dining room for the school, and where butane gas plays a vital role.

Butane Cooks 900 Meals Daily at Cherokee Female Seminary

By O. D. HALL

IN the historic setting of the old Cherokee Indian capital, established in 1839 when the Cherokees immigrated to Northeastern Oklahoma from parts of Alabama, Georgia and Eastern Tennessee, liquefied petroleum gas is carrying on with modern heating and cooking service in the Northeastern State Teachers College at Tahlequah, Okla.

On this beautiful campus, across which ripples a clear stream of water, stands the Cherokee Female Seminary building transferred to the state of Oklahoma in 1909 to serve as the Northeastern State Teachers College. Since then several imposing modern school structures have been added, among them two large dormitories, one for boys and the other for girls. Both are equipped with butane gas installations and service.

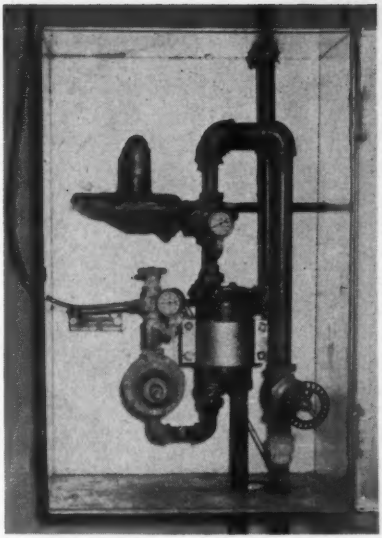
The Cherokee Indian Female Seminary was established in 1851 on a site three miles southeast of Tahlequah. Tahlequah was for more than 50 years before Oklahoma was admitted as a state, the capital of the Cherokee Indian Nation. The Cherokee Female Seminary, established at Park Hill, Indian Territory, burned in 1887 and was relocated at Tahlequah in 1889 in a

building constructed by the Indians at that time, and is still standing and being used as administration building and school rooms for the teachers' college.

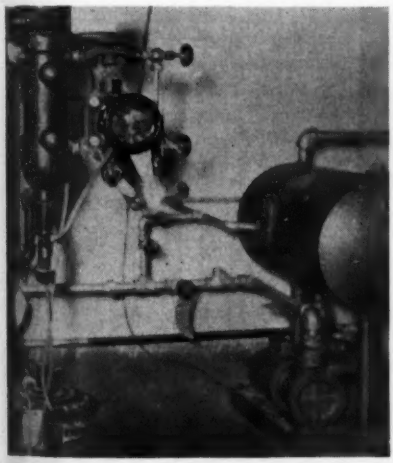
A few hundred yards to the north of this structure is the girls' dormitory where some of the finest butane equipment in the state is installed, including a huge kitchen range, upon which food is cooked for 900 meals per day.

This range and modern baking ovens and water heating equipment are located in the basement of the girls' dormitory, adjoining a commodious dining room where more than 300 meals can be served at one time.

A 15-hp. butane-fueled boiler is located in the girls' dormitory and a similar 10-hp. boiler is doing service in the boys' dormitory. These boilers are connected to 1000-gal. and 500-gal. butane tanks and they supply an abundance of hot water for shower baths, cleaning, cooking and baking purposes. These boilers and tanks were installed by Butane Consolidated, of Oklahoma City, owned and operated by W. L. Elkin.



Heat exchanger connected to the hot water boiler in girls' dormitory.



The power plant, air conditioning, heating and pumping equipment, including pumps, mercury switch, oiler, and pressure regulator, in girls' dormitory.

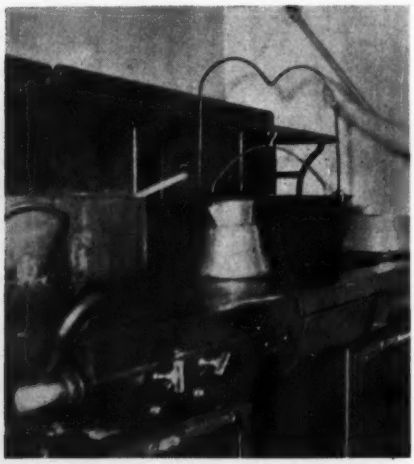
The LP-Gas system is equipped with heat exchangers which can take care of a load of 2,500,000 B.t.u.'s per hour. The boilers also are connected to a coal furnace heating system, so that the latter may carry a part of the water heating load when desired.

Connected to water heating boilers in the girls' dormitory also is a 900,000 B.t.u. air conditioning and heating unit.

The cooking equipment includes a huge LP-Gas range, with five

cooking burners, a grill and two oven burners. The oven burners have a heating capacity of 22,500 B.t.u.'s, each. Standing beside this range is a J. C. Pitman & Sons "Frialator" with 32,100 B.t.u.'s capacity. Nearby is a Vulcan bake oven supplied by the Standard Gas Equipment Corp. In this oven are baked pies, cakes and other pastry served in the college dining room. These are prepared in a modern bakery operated in connection with the college kitchen. Butane gas supplies the fuel for all of this equipment.

How do the men and women who work with this equipment like it? To determine this, Harry Hamilton, the cook, was asked if he had noticed an improvement since the LP-Gas equipment had been substituted for coal-burning appliances formerly used.



More than 300 men and women students of Northeastern State Teachers College are served three times daily with family-style meals from butane gas cooking equipment.

"It certainly was a great relief to get butane gas into this kitchen and bakery department," he answered. "We can now operate with less help and far greater convenience and comfort. The difference is especially noticable in the summer time. Formerly the kitchen and bakery were virtual sweat boxes in hot weather. They are now cooler, cleaner and healthier always."

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Tank Truck Operators Permitted Higher Charges

Recognizing the shifting of tank trucks to new routes and territories to meet emergency transportation needs, the OPA September 1 authorized tank truck operators to charge rates above levels of last March—subject, however, to OPA adjustment.

At the same time, as a protection to the general price level, OPA requires operators, in reporting the new rates, to include a statement from the person paying the transportation charge that the increase would not be made the basis of a commodity price increase or petition to OPA to raise the ceiling of any commodity under price control.

This pricing method is contained in Amendment No. 18 to Supplementary Regulation No. 14, effective September 1. Without this amendment, tank truck rates would be held to levels of last March.

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API Annual Meeting Nov. 9-13 At Palmer House in Chicago

The 23rd annual meeting of the American Petroleum Institute will be held in Chicago, Nov. 9-13 at the Palmer House instead of the Stevens hotel as originally scheduled, according to William R. Boyd, Jr.

The Stevens hotel is not now available because of occupancy by the Army Air Corps.

Officials' Caravan Will Cover Four Pacific Coast Section Meetings

STREAMLINING its Fall Conference to take into account the fact that members from all Pacific Coast points cannot gather this year at a central point for a meeting, Pacific Coast Section, Liquefied Petroleum Gas Association, this year will hold the event by caravan with district meetings arranged for four central points from Los Angeles to the Pacific Northwest. This is the announcement of W. T. Joplin, chairman, Pacific Coast Section.

The caravan will be made up in Los Angeles where the first meeting under direction of Harry I. Horn, vice chairman, will be held on Oct. 26. The caravan will include W. T. Joplin, Phoenix, Ariz.; Ernest Fannin, Phoenix, Ariz., vice president, LPGA; Frank R. Fetherston, New York, national secretary, LPGA; Paul Thompson, Washington, D. C., War Production Board; D. D. Purrington, San Francisco, Standard Oil Co. of Calif., and others. Following the Los Angeles meeting, the caravan will proceed to Fresno where a meeting will be conducted by Don West, vice chairman, on Oct. 28; then to San Francisco for a meeting Oct. 30 to be presided over by W. B. May, vice chairman. C. M. Ambrose will preside over the Pacific-Northwest meeting which will be held Nov. 3 at a city yet to be selected. The program for each of the four meetings will be identical with registration at 10 A. M. to be followed by morning and afternoon sessions with adjournment for luncheon. Among the speakers will be W. T. Joplin, Ernest Fannin and Frank Fetherston, who will summarize the position of the industry as it is affected by recent governmental rulings and regulations. This was done at the Pacific Coast Section's March meeting in San Francisco and the first hand information given proved of tremendous value to all attending. Each of the four meetings is open to all interested parties.

Paul K. Thompson, War Production Board, Washington, D. C., and Frank R. Fetherston, secretary, LPGA, New York, who will attend the series of meetings of the Pacific Coast Section next month.

Those desiring detailed information concerning any or all of the four meetings should communicate with John H. Kunkel, Sectional Secretary, Pacific Coast Section, LPGA, 210 West 7th St., Los Angeles.

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Annual Meeting of A.G.A. Will Be Held Oct. 5-6

The annual meeting of the American Gas Association will be held at the La Salle hotel in Chicago Oct. 5-6.

Meetings of sections and committees will fill all of the first day and general sessions will be held the second day.

THE BOTTLED GAS MANUAL

Chapter 15 Types of Water Heaters

In Two Parts — Part I

IF YOU were a doctor and a patient came to you with a particular complaint you would prescribe medicine for him. Before you prescribed, however, you would know the nature of the drug which you prescribed and what its effect on the human system would be. It is no less important that as a hot water specialist you should know about the water heaters that you recommend or service, and what the performance of those heaters will be. This requires a general knowledge of all types of water heaters.

No one type of water heater is a cure-all for every water heating problem. Some manufacturers excel in one type of heater while others excel in other types.

There are different methods of manufacture to accomplish the same result, but you may be quite confident that if you place any water heater approved by the American Gas Association in the place and under the conditions for which it was designed you will obtain satisfactory performance.

The Many Types of Water Heaters. Water heaters may be non-automatic, semi-automatic, or fully automatic in their operation. They may be conversion units or factory-built assemblies. Let us define these terms for future reference.

A non-automatic water heater is one which has no automatic device for controlling water temperature or flow of gas. It is manually operated in its entirety.

A semi-automatic water heater is a water tank equipped with a "high temperature cut-off valve" to shut off the gas flow to burners when predetermined temperature has been reached. It must be manually reset for subsequent operation. This control may be one of two general types. The first of these, the "interval timer," is nothing more or less than a glorified alarm clock which is actuated by a stiff spring. It is directly connected to the main burner shut-off valve by an universal joint connection. It may be set for a certain number of minutes' operation, at the end of which time it shuts off the main gas burner. The gas valve must operate freely and caution must be exercised to prevent the drying out of the gas cock lubricant, which most frequently occurs when valve is placed in a hot location, thereby making the gas

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• The Bottled Gas Manual series by C. C. Turner, started in the July, 1941, issue of BUTANE-PROPANE *News* and will continue to be published monthly in chapter form until completed. This series constitutes a valuable text book and field manual that should be invaluable to everyone in the liquefied petroleum gas industry.—*Editor.*

cock difficult to turn and oftentimes beyond the ability of the interval timer spring to do so. A modification of the interval timer idea is the thermocouple unit used in connection with an electrically operated gas valve and a time clock. The gas valve closes when the time clock breaks the electric circuit. This type of assembly I believe to be more reliable than the mechanically operated interval timer.

The second type of semi-automatic water heater is that in which the supply of gas to the main burner is shut off by a one-way thermostate (also termed a high temperature cut-off valve) when the water reaches a certain temperature, and the thermostat is so constructed that it can shut off the gas valve but not re-open it when the temperature of the water drops. (See Fig. 1.) A re-setting of the valve requires manual re-lighting of the main gas burner.

The automatic water heater is equipped with a thermostat, either snap action or modulated type, which automatically controls the flow of gas to the burner in response to the demand of the water temperature within the tank. A standby pilot or a safety pilot provides for the ignition of gas when the thermostat demands more heat.

An automatic heater does not necessarily have to be equipped with a safety pilot. The safety pilot and pressure and temperature relief cut-off valves are accessories to an automatic water heater. The safety pilot is a very desirable accessory, for in the event of flame extinguishment by accident the flow of gas is automatically cut off to the main burner and to the pilot. Only then is manual relighting required.

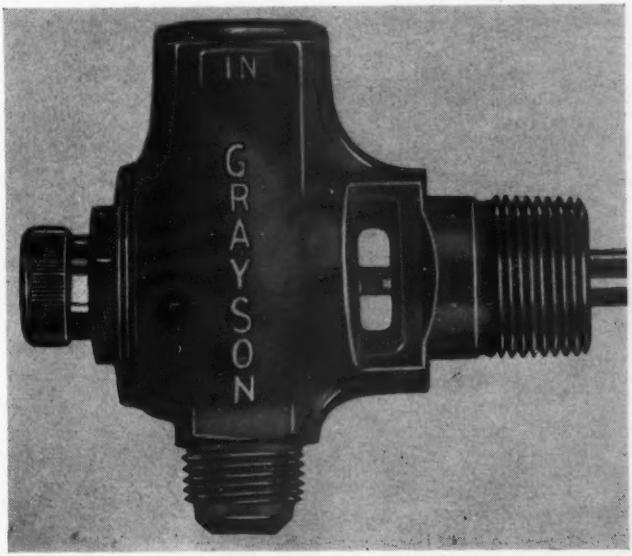


Fig. 1
High Temperature Gas Shut-off Valve

(Manufactured by Grayson Heat Control, Ltd., Lynwood, Calif.)

The safety pilot is demanded in some localities by special codes.*

Conversion units are water heaters without any tank for water storage. They are designed to be used with such facilities for hot water storage as the customer already is using in connection with some other water heating medium. There are several kinds of conversion units, and we will discuss them in detail later in this chapter.

Factory-built assemblies are known as storage water heaters. They are completely self-contained, having the water heater, the storage tank, insulation, control devices and necessary safety features included in one unit.

Classification of Water Heaters. Let us first classify the various water heaters available, and then discuss each one in detail.

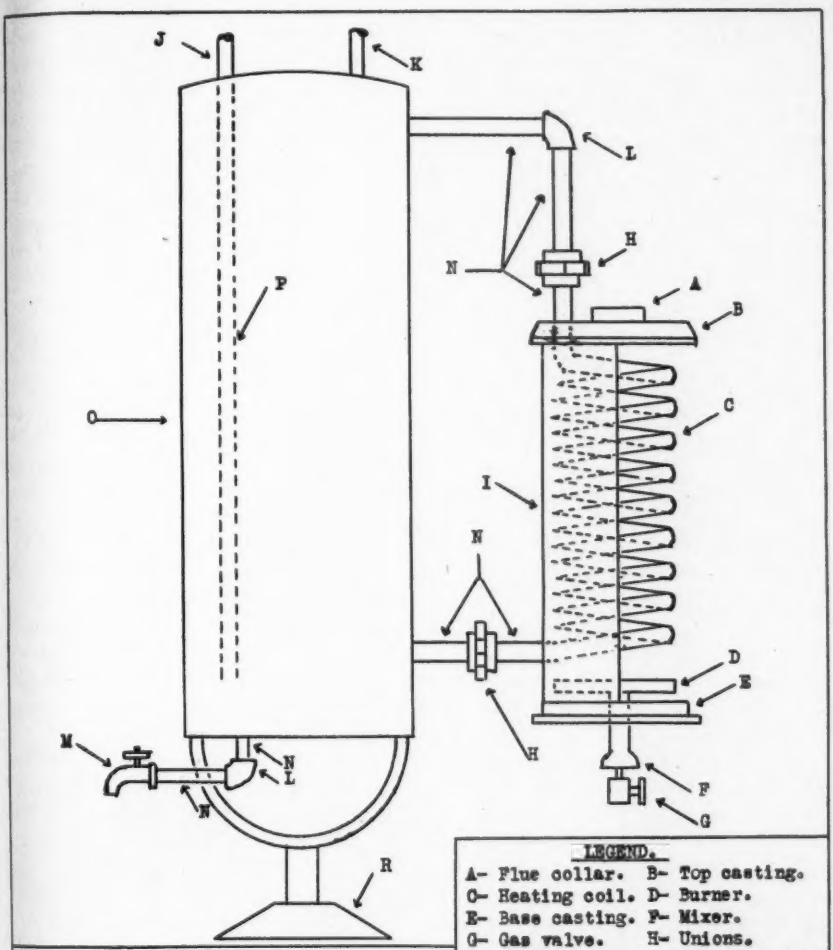
A. *Conversion Units.*
   1. Side arm, or tank water heaters.
      Non-automatic.
      Semi-automatic.
      Full-automatic.
   2. Wrap-around units (full-automatic).

B. *Storage Water Heaters.*
   1. Kettle type.
   2. Straight-through flue type.
      Unbaffled.
      Dampered.
      Baffled
   3. Inverted "U" flue type.
      Balanced flue type.
      Return-bend flue.
      Flue and outer surface type.
      Concentric flue type.
   4. Radiant type.

Side Arm, or Tank Water Heaters. A tank, or side-arm water heater is nothing more or less than a vertical coil of copper tubing, or a small heater tank, beneath which is a gas burner, this usually being of relatively large input. Surrounding the coil, or heater tank, and at a distance of approximately one inch from it, is a metal jacket which serves to confine the gases of combustion, thereby permitting them to transmit their heat to the tubing, or heater tank, walls. Within the coil, or heater tank, is water, and the top of this coil, or heater tank, is connected by a pipe to a hot water storage tank at a point somewhere near its top. The bottom of the coil, or heater tank, is similarly connected to the hot water storage tank at a point near its bottom. (See Fig. 2.) Heating of the water within the coil, or heater tank, causes it to rise and enter the storage tank through the upper pipe connection. This displaces the water at this point which in turn forces the cold water into the coil, or heater tank, through the bottom pipe connection. This cycle continues as long as the gas burner is in operation.

A side-arm heater may or may not be equipped with a thermostat and pilot. The side-arm heater illustrated in Fig. 2 is installed without any safety precautions or devices. It is entirely possible to

* The American Gas Association, through its Testing Laboratories, approves LP-Gas water heaters found by laboratory tests to meet current American Standard requirements. These specify such heaters must be equipped with a safety pilot providing 100% gas shut-off. All approved models must display the trade-marked Laboratories Approval Seal. They are specifically listed for LP-Gas in the Laboratories Directory, published periodically. Approval is granted only on factory-built heaters. Its continuance is dependent on satisfactory factory inspections.



LEGEND.

A- Flue collar. B- Top casting.
C- Heating coil. D- Burner.
E- Base casting. F- Mixer.
G- Gas valve. H- Unions.
I- Outer casing. J-Cold water pipe
K- Hot water pipe. L- Ells.
M- Drain faucet. N- Pipe nipples.
O- Tank. P- Dip tube.
R- Pedestal base.

FIG. 2

NON-AUTOMATIC SIDE-ARM OR TANK WATER HEATER CONNECTED TO STORAGE TANK.

make such an installation but the practice is not recommended.

Almost all of the semi-automatic water heaters in use are of the side-arm type. If a mechanically operated interval timer is used it is attached to valve "G". As previously stated, such an interval timer is nothing but a modification of the simple alarm clock, but instead of ringing a bell the alarm mechanism turns off the flow of gas by rotating valve "G". In such installations the gas valve must be well lubricated and special care taken in adjusting it so that it will turn easily within the power of the interval timer mechanism to rotate it.

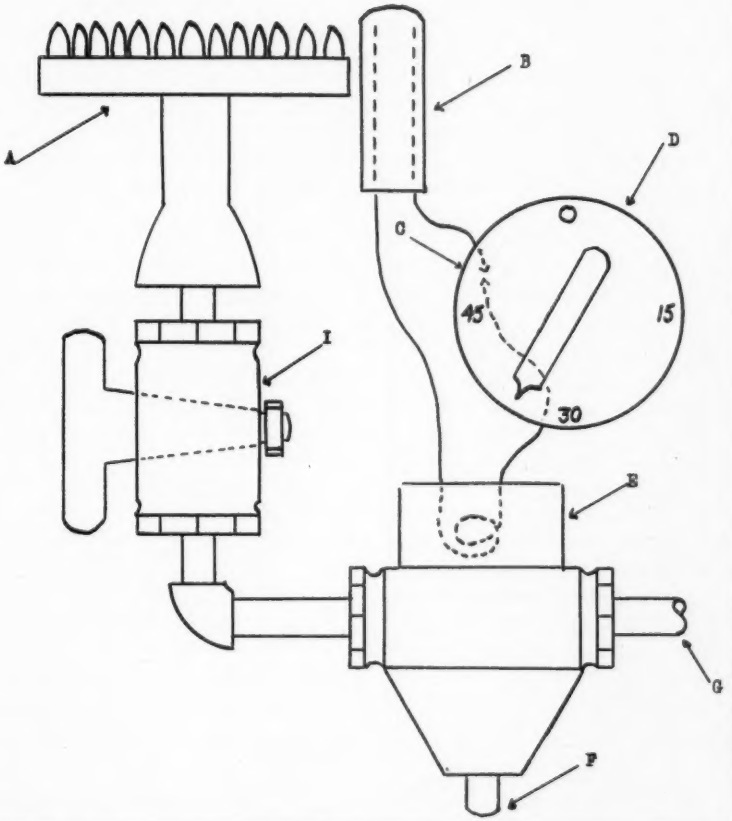
Another type of semi-automatic installation is illustrated in Fig. 3. Here heat from the main burner generates a small electric current in the thermocouple generator. This flows through the time clock to the magnetic valve. To start such a heater it is necessary to hold up on push button "F" while the burner is ignited and until such a time as the thermocouple generator generates enough current to hold the magnetic valve open. When the predetermined time has elapsed the contacts within the time clock are separated, thereby breaking the circuit and allowing the magnetic valve to close. Such installations are very reliable, and the chief danger lies in the clock stopping before the predetermined time has elapsed, thereby allowing the points to remain in contact and the burner to remain in operation until the trouble is discovered.

As simple and reliable an assembly for semi-automatic operation as has yet been devised will be found in Fig. 4, where an assembly of a thermostat, a thermocouple generator and a magnetic valve is shown. To start this heater the thermostat is first set for the desired temperature, then the operator holds up on reset button "I" while the burner is lighted and until the thermocouple generator generates sufficient current to hold the magnetic valve open. When the desired temperature is reached the thermostat cuts off the supply of gas, and on extinguishment of the main burner the thermocouple generator fails to generate current and the magnetic valve closes. When the temperature of the water drops the thermostat will again open, but inasmuch as the magnetic valve is closed no gas can get to the burner until it is again lighted in the manner just described. While the illustration shows the magnetic valve installed between the thermostat and burner it is better to have it upon the other side of the thermostat; then it is possible to disassemble the thermostat without having to turn off a manually operated gas valve farther back in the line.

The difference between a fully automatic and a semi-automatic water heating system of this type is so slight that it makes one ask, "Why install such a system when automatic water heating may be had for the slight additional cost of changing the thermocouple generator to a pilot generator?" This is a question worthy of asking, yet in spite of the slight difference in cost many people have such instal-

FIG. 3

SHOWING THE MANNER IN WHICH A THERMOCOUPLE GENERATOR, TIME CLOCK AND A MAGNET VALVE ARE ASSEMBLED TO MAKE A TIME CONTOLLED SEMI-AUTOMATIC WATER HEATER.

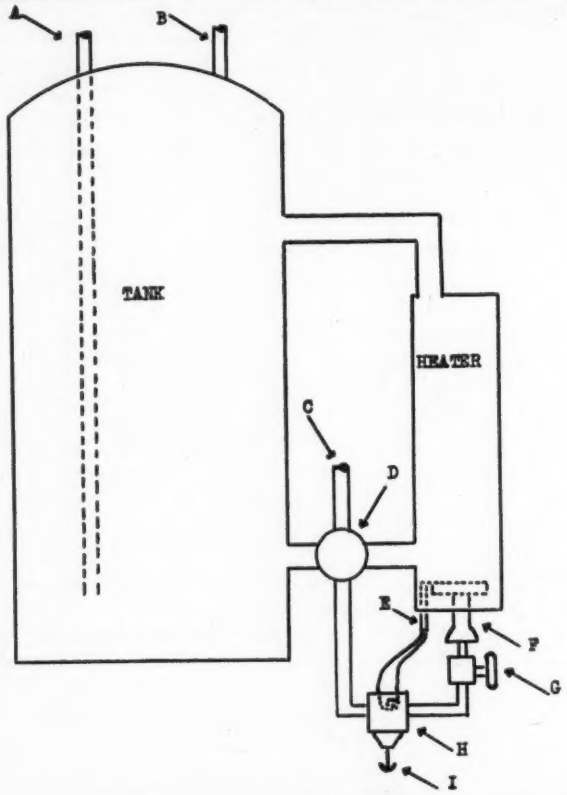


LEGEND.

A- Gas Burner.
B- Thermocouple generator.
C- Contact Points
D- Time Clock
E- Magnetic Valve.
F- Reset Pushbutton.
G- Gas Supply Line.
I- Burner Stop-cock or valve.

FIG. 4

SHOWING THE MANNER IN WHICH A THERMOSTAT, THERMOCOUPLE GENERATOR AND A MAGNETIC VALVE ARE ASSEMBLED TO MAKE A TEMPERATURE CONTROLLED SEMI-AUTOMATIC WATER HEATER.



LEGEND.

A- Cold Water Supply Line.
B- Hot Water Outlet Line.
C- Gas Supply Line.
D- Thermostat installed in a Thermal Well.
E- Thermocouple Generator.
F- Gas Burner.
G- Gas Burner Shut-off Valve.
H- Magnetic Valve.
I- Re-set Push Button.

NOTE:- If the magnetic valve is installed upon the other side of the thermostat it is possible to work on the thermostat when the magnetic valve is inoperative without shutting off the main gas valve.

lations made on the mistaken assumption that by so doing they can save on water heating costs. What really happens is that the water in the tank is drawn down to a lower temperature and the burner has to operate just so much longer and consume just so much more gas in order to reestablish the desired temperature. Unless the period between drawings is exceptionally long, no economy is accomplished and the probability is that the water heating operation will be more expensive than as if fully automatic heating had been relied upon.

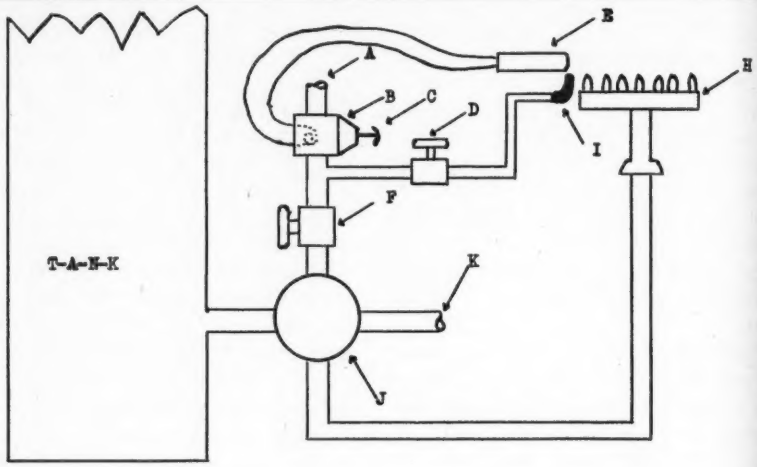
Fully automatic side-arm water heater assemblies are usually sold by the manufacturers as package units. There are several of them on the market and they will be found to be entirely satisfactory as to mechanical operation if they are installed in accordance with directions. It is, however, possible to make any side-arm water heater installation into a fully automatic one by the installation of a pilot-generator, magnetic valve, and thermostat. Fig. 5 illustrates such an assembly.

To light the main burner, valve "F" is first turned off and valve "D" is turned on. A lighted match is then held beneath "I" and reset button "C" is pressed in and held by hand in this position. This permits gas to flow to the pilot which ignites at "I", heating the generator. As soon as the generator is heated so as to generate sufficient current to hold the magnetic valve "B" open, reset button "C" may be released. The pilot light "I" will continue to burn. Valve "F" is then opened, and gas will flow through the thermostate "J" to the main burner where it is ignited by pilot light "I". The main burner will continue to burn until the gas supply is shut off by the thermostat, at which time it will go out entirely. Pilot light "I" continues to operate and will reignite the main burner when the thermostat permits gas to flow to it again. If, however, for any reason pilot light "I" is extinguished, generator "E" will fail to generate current, and the magnetic valve "B" will close, thereby cutting off all gas from both the main burner and pilot light until the pilot light is again lighted in the method before described.

The Importance of Tank Insulation. Let us for the moment forget about side-arm water heaters and turn back to Chapter 4. While the rate of heat loss or radiation differs somewhat according to the temperature, let us assume that it is the same as the experiments made to determine the heat drawn by a propane cylinder, 2.00 B.t.u. per degree differential in temperature, per square foot of surface, per hour. If the room temperature is 45° F. and the hot water temperature 145°, we have a 100° temperature differential, and the heat lost through 1 sq. ft. of tank surface will be 100×2=200 B.t.u. per hour. A 30-gal. range boiler has a surface area of approximately 17.27 sq. ft., so it can radiate with a 100° temperature differential. 17.27×200 =3454 B.t.u. per hour or 24×3454= 82,896 B.t.u. in 24 hours, which

FIG. 5

SHOWING THE MANNER IN WHICH A THERMOSTAT, A PILOT GENERATOR AND A MAGNETIC VALVE ARE ASSEMBLED TO GIVE FULL AUTOMATIC WATER TEMPERATURE REGULATION.



LEGEND.

A- Gas Supply Inlet.
B- Magnetic Valve.
C- Reset Push Button.
D- Pilot Gas Valve.
E- Thermocouple Generator.
F- Main Burner Gas Valve.
H- Main Burner.
I- Pilot Light.
J- Thermostat.
K- Water line to bottom of side-arm heater.

amounts to 3.83 lbs. of propane per day, or enough fuel to heat 99.5 gals. of water through a 100° temperature rise!

Additional Safety Devices. It has not been mentioned previously but it is recommended that temperature and pressure relief valves be installed. If two separate valves are installed the pressure relief valve, which automatically relieves excessive water pressure in the cold water system, should go on the cold water line at the top of the tank and the temperature relief valve which automatically cuts off the flow of gas to the burner when temperature rises higher than indicated by thermostat, should be similarly placed upon the hot water

line. There are valves on the market which combine both features, and such valves should be installed at the top of the tank on the hot water line through which the hot water is drawn off.

A combination pressure and temperature relief valve is, in reality, a pressure relief valve to which has been added a tube with fusible plug designed to melt at 205° F., at which time the water must be shut off. If this type is installed a connection should be made to the sewer to care for the water flow, and the water supply to the heater must be shut off to prevent this continuing escape. The most trouble-free installation is one using a high temperature cut-off valve instead of a fusible plug in combination with a pressure relief valve, for in this type when an excessive temperature has been reached the gas is automatically shut off.

Effect of Piping on Satisfactory Side-Arm Heater Performance. Not much is said upon this subject, but it is an extremely important one, and the method of connecting up the inlet and outlet lines to a side-arm heater may mean the difference between satisfactory and unsatisfactory performance. The matter of safety also enters into the manner in which these water pipes are run. Let's analyze typical installations. They will appear next month.

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(Part 2 of Chapter 15 of The Bottled Gas Manual will be published in the November issue of BUTANE-PROPANE *News. It will contain the Questions and Answers for the entire chapter.—Editor.)*

More Synthetic Rubber From Natural Gasoline

Natural gas and natural gasoline plants will have a much larger share in the synthetic rubber program than appeared likely a few weeks ago, due to two new developments in the program, according to advices from Washington.

One factor is that considerable quantities of butane will now be used to produce butadiene, whereas earlier the Rubber Reserve Co. announced that all butane processes had been abandoned and butylene would be the only charging stock used. Also, the Office of Petroleum Coordinator is working with a number of natural gasoline plants on plans to convert their equipment to produce butadiene from butane.

The other development is the conclusion that large quantities of furnace black will be required to make automobile tires from synthetic buna-S rubber. Buna tires require larger quantities of black than do natural rubber tires, and the so-called furnace black has been found more desirable because it is coarser and greasier than carbon black and serves as a binder for the rubber.

◆ ◆

WPB Orders Halt Much Electrical Construction

Because of the increasing need for conservation of critical materials, the War Production Board has halted further construction of electric power and light projects which had been permitted under prior authorization with respect to projects 40% complete on Dec. 5, 1941.

The WPB action, taken through issuance of Amendment No. 3 to Preference Rating Order P-46, does not affect the construction of important war projects which have been or may be specifically authorized by WPB.

Objective Sighted

Out on the production line of our plant, no gas ranges are taking shape. Strange, incongruous machines of war are a-building there instead. But in our minds and in our laboratory is a growing vision of the Grand Gas Range of the future . . . embodying a degree of convenience and efficiency women haven't yet dreamed of. That's our sighted objective—as soon as the immediate objective of winning the war has been accomplished.

When Peace Comes It Will Be GRAND

Grand Gas Ranges

DIVISION OF THE CLEVELAND COOPERATIVE STOVE COMPANY

CLEVELAND, OHIO

Grand

Blood-Plasma Dried and Sealed With Propane for War Needs

A NEW enterprise, born of recent medical discovery and the violence of war, is that of drying blood-plasma, sealing it in an evacuated "vipule" (glass flask both stoppered like a "vial" and sealed like an "ampoule"), and packing it with another vipule of sterile water, a hypodermic needle and other necessities—for emergency use in war zones to promote healing where blood loss has been excessive. In this connection, the Reichel Laboratories, Kimberton, Pa., cooperating with the American Red Cross to prepare donated blood for the Allied armed forces, has solved a knotty problem of medical glass sealing and, as a result, has materially speeded up its much-needed plasma production.

Other Fuels Inadequate

The Reichel Laboratories uses heavy and relatively slow-burning bottled propane for fuel. To get consistently proper glass-working flames under pressure for fast sealing was found to be difficult by ordinary fuel-handling means. Accordingly, the small positive-displacement compressor and automatic fuel-air proportioning valve shown in Fig. 1 was installed. This unit, a Type J Selas combustion controller, reduces the propane to

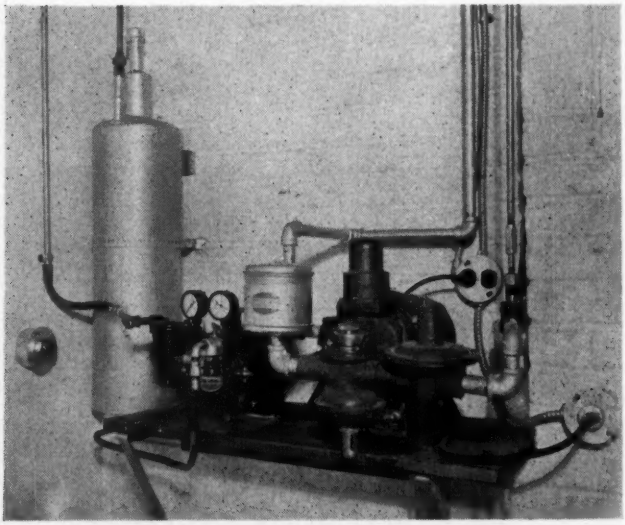


Fig. 1. Propane-air premixer and compressor.

Fig. 2. Propane is delivered to refractory-tip jets at a constant pressure of 1½ lbs. per sq. in.

atmospheric pressure and intermixes it, in advance, with all the filtered air required for combustion —in constant ratio irrespective of variations in fuel pressure, rates of demand, or atmospheric conditions. Further, it delivers the resultant carbureted fuel to refractory-tip jets of the type shown in Fig. 2 at a constant pressure of about 1½ lbs. per sq. in. As a result, evacuated vipules of plasma (after centrifuging, pooling, freezing, and drying in vacuo) are now conveniently sealed at a rate of between 3 and 4 per minute per operator.

The vipule rotates on a small brass turntable until the glass has softened to the proper point, at which time the operator manipulates the seal as shown. Important is the fact that the seal be short —for strength and space conservation in the final package.

President Roosevelt Names "Fire Prevention Week"

"Fire Prevention Week" has been designated as October 4-10 by a proclamation issued by President Roosevelt in which he called upon the nation for observance of this occasion as part of the war effort.

The President pointed out that every loss of life, every interference with production and every loss of critical materials delays victory in the present war and that Fire Prevention Week affords an opportunity to impress all the people with the present urgency of protecting property against destruction by fire.

◆ ◆

Tank Trucks Exempt From General Order ODT No. 6

A general permit exempting tank trucks from the provisions of General Order ODT No. 6, as amended, was issued September 3 by the ODT.

This order governs local delivery operations of common carriers.

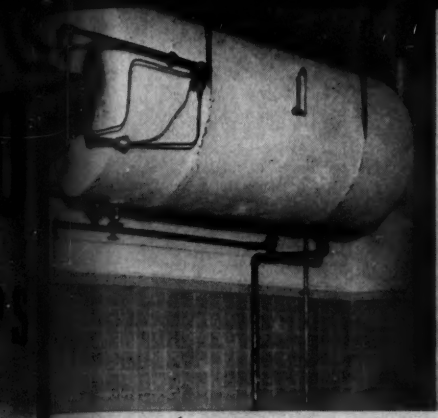
LP Gas AND REGO

HELP BUILD LIBERTY SHIPS

REGO

LP GAS EQUIPMENT

BUY WAR BONDS
FOR VICTORY



ATER TANK in lunch room of southern d uses LP Gas and REGO Equipment to eeds of kitchen and wash rooms.

GAS RANGE in kitchen of shipyard cooks all food with LP Gas and is equipped with REGO parts throughout. An economical and safe arrangement.

RegO LP Gas equipment is serving dependably, safely and economically on installations that directly help the war effort.

The Bastian-Blessing Company is proud to have RegO equipment selected for cooking, heating and industrial purposes in such a vital war industry as shipbuilding. In addition, Rego is in daily use in many training camps, bases and air fields throughout the country.

Alert LP Gas dealers, distributors and technicians are putting LP Gas to utmost war and civilian use to meet today's most urgent demands. A Bastian-Blessing factory trained engineer can help you on your next job. Write.

441-foot Liberty Ship, husky cargo carrier that is being built in production to form bridge of ships from America to the fighting fronts of the world.

sure perfect performance and economy by insisting on genuine stian-Blessing products identified by the RegO trademark.

The **BASTIAN-BLESSING** Co.

4233 Peterson Avenue Chicago, Ill.

ers in equipment for using and controlling high pressure gases.

REGO LP GAS EQUIPMENT

UL

24 Miles of Mains Supply Gas to 760 Consumers

By CRAIG ESPY

THERE are always present in every successful enterprise several important indices by which that particular business can be rated or judged. In the case of the operation by the City of Kerrville, Texas, of its 550 B.t.u. butane-air gas plant and distribution system, G. S. Cone, city manager, points out that the number of customers has increased from 385 in 1935 to 760 in January, 1942, and that the total gas sold in 1935 was 20,229,600 cu. ft., compared with a total sold in 1941 of 46,131,500 cu. ft.

Four Rate Reductions Since 1935

Another index of successful operation is shown in the fact that the city has been able to reduce its rates four times since 1935. The rate now stands at $1.50 for the first 2200 cu. ft.; 70 cents per thousand for the next 2800; 60 cents for the next 5000; 50 cents for the next 40,000 and 40 cents for over 50,000. By contrast, the old rate was $2.46 for 2200; $3.10 per thousand for 3000; $3.90 for 4000, etc.

Another index of progress is found in the fact that there has been talk of increasing again the capacity of the plant but recent limitation orders have, to a main degree, curtailed plans for enlargement in the early future.

Kerrville is noted for its climate, as a health resort, for the fact that 5000 hunters kill and take out of the territory 2000 bucks and 1000 wild turkeys per year. The market is also the largest primary mohair market of the world. It entertains each summer approximately 10,000 summer visitors.

Out of a total population of 5572, approximately one-half of the homes of Kerrville are gas customers; this in spite of the fact that the city has available one of the lowest electrical rates available in the South or Southwest. This rate is three cents per kw. hr. for the first 50 kw. hr. consumed per month; two cents per kw. hr. for next 150 kw. hr.; one cent per kw. hr. for the next 200; four cents per kw. hr. for the next 1000 and 75 cents per kw. hr. for excess over 1400 kw. hr.

Heating Load Is Growing

While cooking and water heating provide the main load, there are approximately 200 customers who use the fuel for heating purposes. A large number of these came onto the lines at the last reduction of rates.

The Kerrville plant was originally constructed in 1930 by private interests. These interests were bought out by the City of Kerrville in 1934. The plant was moved into a new location, enlarged and

improved during 1935 and 1936. It is operated in connection with the water plant.

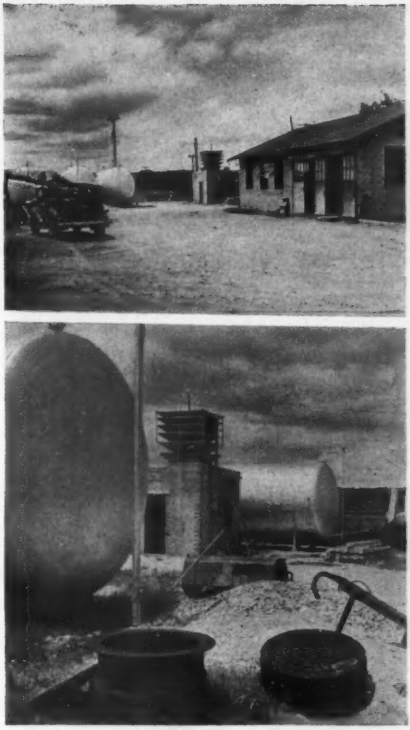
Mr. Cone has provided the following information about the plant:

The liquid butane is delivered by truck transports and stored in a 24,000-gal. horizontal storage tank, 10 ft. x 40 ft.

Three Mixing Units Used

The butane is vaporized in an 8¼ in. x 7 ft. x 4 in. heat exchanger of 62 cu. ft. exchanger surface, which was purchased in 1935. It is then mixed with air in three mixing units, and the resultant 550 B.t.u. gas is forced into a common surge tank of 940 cu. ft. capacity at 28 oz. maximum pressure. The first two units, No. 1 and No. 2, are from the old plant and are complete Kemp No. 5 Improved System mixers, each of 9000 cu. ft. per hour capacity and each driven by a 5 hp., 220 volt, 3-phase, 1160 r.p.m. induction motor. Unit No. 3 is a Kemp No. 7, Series S, industrial carburetor with Kemp-Spencer Turbo compressor, driven by a 5 hp. induction motor (capacity of unit 18,000 cu. ft. per hour discharge), this latter unit purchased in 1936.

The gas mixture is drawn from the surge tank by three compressors. Units No. 1 and No. 2 are from the old plant and are 9 x 8 Ingersoll-Rand, Class ER1 air compressors, each driven by a 25 hp., 220 volt, 3-phase, 115 r.p.m. induction motor. Unit No. 3 is a 12 x 11 Worthington gas compressor, Type H.B., single stage, 300 r.p.m., of 311 cu. ft. per minute capacity delivered at 75 lbs., and



Two views of the butane-air plant at Kerrville, Texas

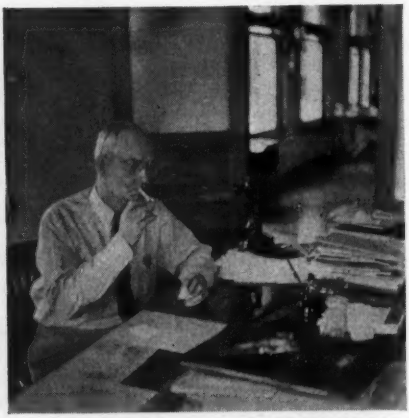
driven by a 50 hp., 220 volt, 3-phase, 60 cycle, 1150 r.p.m. induction motor.

These three compressors draw the gas from the surge tank and force it into three gas storage tanks at a pressure of 35 to 70 lbs. pressure. Two of these tanks are each approximately 3200 cu. ft. capacity (10 ft. x 40 ft.) and the third approximately 2400 cu. ft. capacity (10 ft. x 30 ft.), with total gas storage of 8800 cu. ft.

The gas passes from the storage tanks through an EMCO balancing

valve regulator, where it is reduced to 15 lbs. pressure.

It then passes through a battery of three master meters. Meter No. 1 is an EMCO, No. 4, rated capacity 5000 cu. ft./hour at 2 in. W.P. and 2250 cu. ft./hour at 5 in. W.P.; 2 cu. ft. per revolution; maximum pressure 50 lbs. Meters No. 2 and No. 3 are EMCO No. 5 meters, each



G. S. Cone, Kerrville, Texas, city manager, at his office desk.

with rated capacity of 10,000 cu. ft. at 2 in. W.P. and 5000 cu. ft. at 5 in. W.P.; 5.55 cu. ft. per revolution; maximum pressure 50 lbs. These latter were installed October, 1939.

Part of the gas then passes into the 3½-in. high pressure main at 15 lbs. pressure and part goes through an EMCO balancing valve regulator, low pressure type, size 2 in., where it is reduced to a pressure of 6 to 8 oz. and enters the 4½-in. low pressure main.

The low pressure distribution system consists of 35,500 ft. of 4½-in., 33,300 ft. of 3½-in., 1700 ft. of 3-in., 14,500 ft. of 2-in., 2000 ft. of 1½-in., and 1000 ft. of 1¼-in. main or a total of 88,000 ft. (or 16.7 miles) of low pressure mains supplied at 6 to 8-oz. pressure.

The high pressure system consists of 29,700 ft. of 3½-in., 2200 ft. of 2-in., 1000 ft. of 1½-in., and 6100 ft. of 1¼-in. mains, or a total of 39,000 ft. (or 7.4 miles) of high pressure mains supplied at 15 lbs.

Approximately 75% of the customers are connected to the low pressure mains and 25% to the high pressure mains through individual service regulators.

The pressure at the meters is 6 oz., or slightly more. When the city revamped the system the pressure was set for 4 oz., but it was soon found that a higher pressure was more satisfactory.

The high pressure distribution system is connected to the low pressure mains at six outlying points through six district regulators which reduce the pressure at these points from 15 lbs. to 6 or 8 oz.

◆ ◆

Phillips Resumes Full Operations on Rubber

After about a month of slowed construction operations at the local 45,000-ton-per-year synthetic rubber plant being built by Rubber Reserve Corp. for operation by Phillips Petroleum Co. in Borger, Texas, full-scale activity has been ordered resumed.

This is interpreted to mean that the original plans whereby butane is to be processed into butadiene and then to Buna-S will be carried out and that the investigation of alternate processes will go on with only subsequent construction to be guided by these findings.

New Offices For Florida Company

AN expansion program that was well under way before war came to this country was culminated last spring with the completion of the Miami, Fla., headquarters of the Southeastern Natural Gas Corp., as shown in the accompanying photograph.

The firm's first propane gas bulk storage plant was erected in Tampa in 1927 when the bottled gas industry of America was in its infancy. Prior to 1931 Southeastern served an area from Tampa to Palm Beach. In 1931 they opened a Miami office. They had one customer and for quite a time that's all they did have. Then things started to move. By 1932 business warranted the erection of a bulk storage plant in Miami. In 1934 the home offices were established here.

The business has shown consistent and substantial growth. Today the firm has branch offices in Tampa, Fort Myers and West Palm Beach and dealers in the principal cities in Central and South Florida.

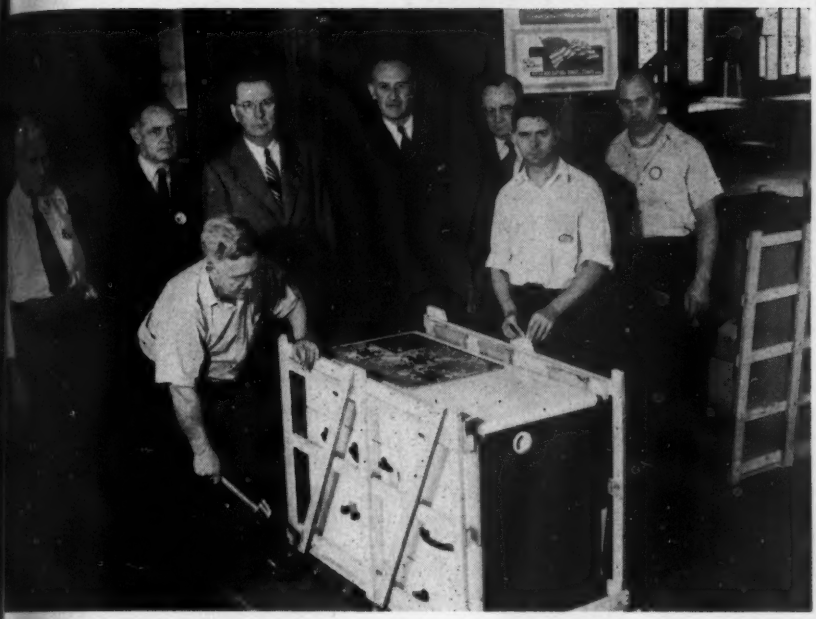
This year's expansion program included the office building on their own property, in Miami, at W. Flagler and Seventh, and two additional bulk storage plants, one in North Miami Beach and one in Stuart. The combined capacity of their four storage plants is more than half a million pounds of liquefied petroleum gas.

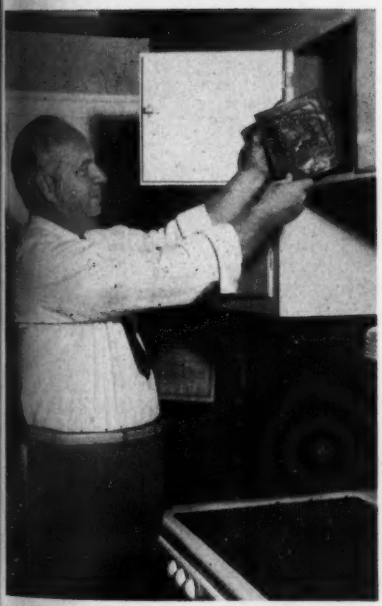
Officials of Southeastern comprise Fred W. Warner, Jr., president; J. E. Price, vice president and treasurer; R. L. Christian, vice president of operations; L. B. Stokesberry, secretary and sales manager, and C. R. Vetter, service manager. Many employes have been with the company since its inception. Their top salesman, J. E. Hurley, is a 10-year man.

The average service term for all of the men is seven years.

The newly-constructed home of the Southeastern Natural Gas Corp. in Miami, Fla.

LAST 3
ROPER
GAS RANGES
FOR THE DURATION
HEADING FOR THE
U.S.O.'s





For the Duration!

There was more than a little of drama as, on July 31, materials for war chased the last gas ranges down the assembly lines of many appliance manufacturers for the war's duration.

On these facing pages are scenes that occurred in several instances. Upper left shows employes of the Geo. D. Roper Corp., Rockford, Ill., autographing the last three ranges built.

Just a little more than 100 years ago the Estate Stove Co. began operations at Hanging Rock, Ohio. In 1886 the business was moved to Hamilton, where continuous work was carried on until July's end. The lower left group is gathered about the last range manufactured.

Above (right) is the closing scene at the Florence Stove Co. plant in Gardner, Mass., where officials of the company are helping to crate the last range.

Below on this page is E. Carl Sorby, of the Roper Corp., putting into cold storage the renowned oyster bucket with which he has demonstrated his lectures throughout the country.

How Cylinders Are Retested

By GEORGE W. DOTSON
Wichita Cylinder Retesting Laboratory, Wichita, Kansas

RETESTING cylinders every five years in accordance with the regulations of the Bureau of Explosives and the ICC involves submitting the cylinder to an internal pressure of twice the operating pressure inside a water jacket. This applied pressure must be held for a period of not less than 30 seconds with no drop in the column.

The amount of expansion is measured in cubic centimeters in the displacement glass burette tube. The amount of permanent set or permanent expansion is measured when the pressure is released.

While the tolerance allowed is reasonable, our experience is that the test is necessary because even in the allowed tolerance there is a distinct variation that should be checked in the interests of safety.

The Bureau allows a cylinder to be returned to service if the permanent set or expansion is 10%, or less, of the total expansion.

Indications are that a little less than 1% of five-year-old cylinders will be rejected due to hardness or the crystallizing process of the steel used in construction. Cylinders that have become hardened or crystallized are unsafe until they are reannealed to bring back their elasticity.

No handler of cylinders would be willing to risk filling or handling cylinders that have "become of age," knowing that a bump or unexpected fall might result in a complete failure or rupture of the steel, itself.

Our capacity will allow us to serve up to several hundred cylinders per month. Our plant has been inspected and reported upon favorably by T. C. George, a representative of the Bureau of Explosives, and also by Chief Inspector Topping.

In Fig. 1 the operator is lowering a cylinder into the water jacket for testing. The powerful hydraulic pump is plainly shown in this picture in the left rear.

Gage is Tested Frequently

In Fig. 2 the operator is standing directly in front of the 1000-lb. gage which is tested for accuracy on a dead weight instrument frequently. The concrete block in the foreground shows the method of holding cylinders while the valves are taken out and re-inserted; also the hose and water supply is adjacent to allow convenience in filling.

The instrument panel combines the glass burette tube and the pressure gage controls for the electric driven hydraulic pump in the background. The hydraulic fluid used by us is water and 100-lb. capacity cylinders weigh about 300 lbs. when filled, making it necessary to hoist them in and out of

the water jacket which is installed above and below the floor level.

The hoist is suspended by a trolley that travels on an I-beam, allowing free swing of cylinders.

It is very essential that the temperature of the hydraulic fluid, the cylinder, and the water in the water jacket be kept the same. Any variation in temperature upsets the test and makes it necessary to fill cylinders and adjust cylinder temperatures before the retest. This makes it imperative that the cylinders be sheltered in a room in which the temperature is controlled.

The calibrated cylinder is a perfectly drawn cylinder that has no permanent expansion. This cylinder is used each day before the run to check on the accuracy of the testing equipment.

The calibrated cylinder is put into the water jacket in the same manner as any cylinder for retesting. The pressure is applied and with all the pressure taken off, the reading should always be zero.

In remarking the cylinders tested, no previous markings are taken off but new testing date is added.

Records are filed and furnished the owners of the cylinders for their reference. However, our files are open to our customers for further reference and to the Bureau of Explosives. The form used

Fig. 1. The operator and owner of the Wichita (Kan.) Retesting Laboratory, Geo. W. Dotson, is lowering a cylinder into the water jacket for testing.

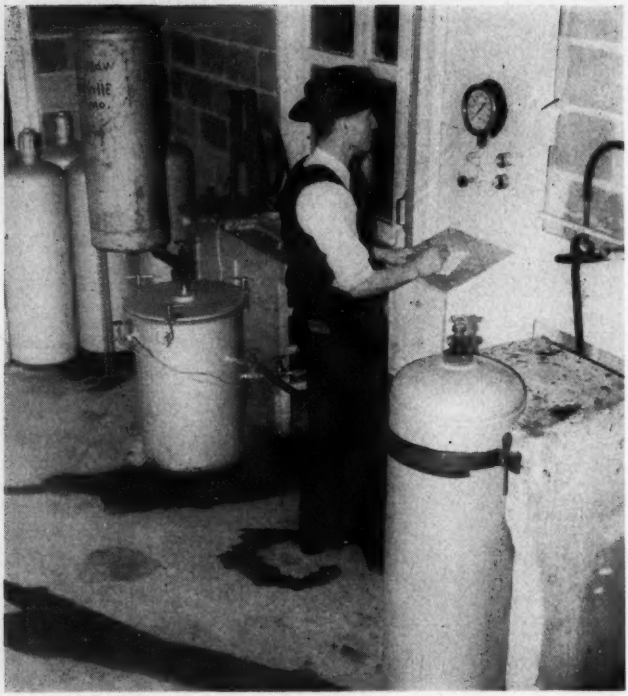


Fig. 2. The operator is standing directly in front of the 1000-lb. gage which is frequently tested for accuracy on a dead weight instrument.

for records is shown in Fig. 3.

Our method of drying provides for the use of dry super-heated steam. This not only dries the cylinder perfectly but thoroughly cleans the inside, getting rid of all heavy ends and odorant and giving the cylinder a complete internal bath. The examination of the interior by the use of a light affords the opportunity of checking for pits and decomposition.

The original tare weights are checked with the actual weights and any variation within the limits is recorded upon the cylinder.

FIG. 3.

Date_____ Wichita, Kan.

RECORD OF HYDROSTATIC TESTS ON CLYINDERS

Size: _____Inches Outside Diameter by_____Inches Long

Made by Wichita Cylinder Retesting Laboratory

Made for_____

Serial Nos. of Cylinders Tested	*Actual Test Pressure (Lbs. Per Sq. In.)*	*Total Expansion (Cubic Centimeters)*	*Permanent Expansion (Cubic Centimeters)*	*Per Cent Ratio of Permanent Expansion to Total Expansion*	*Tare Weight (pounds) With Valves*	*Volumetric Capacity*

RESEARCH

• **EACH MONTH a competent staff reviews more than 70 publications serving the oil, gas and affiliated industries in a search for those published articles of value to technicians and executives in the liquefied petroleum gas industry. In this department of** BUTANE-PROPANE *News*, **brief abstracts of such articles are presented.—Editor.**

Sand Bags and Dirt Mounds Protect California Wells—J. C. Albright. *Oil Weekly*, May 4, 1942, pp. 25-28. Wartime protection of important oil field equipment and installations has been provided for the producing branch of the industry in California by the formation of a cooperative agency sponsored by the various companies in that area. This agency operates through a board of directors with a chairman for each locality to coordinate its efforts with the state and military in the matter of guards and blackout provisions. Chief concern of the industry is for high-pressure wells, flow tanks, tank farms, compressor stations and similar mechanical apparatus which might be damaged by saboteurs and bombing.

Reduction of Metallic Ores by Natural Gas—F. H. Dotterweich. *Refiner*, May, 1942, pp. 135-138. Reduction of metallic ores, especially iron ore, is being accomplished in localities favored by desirable proximity to the required raw materials such as coking coal, limestone, ores and favorable location relative to transportation. The Pacific Coast states have high-grade iron ores, but in the absence of coal of coking quality this operation has not become practical. Announcement of the "Clarkiron" process, developed by Walter Gordon Clark, of Los Angeles, comes at a time in which the expansion and separation of the metallurgical industry is highly desirable. The process consists of the reduction of metallic ores, in relatively finely divided form, by natural gas. The process has successfully passed the pilot plant stage and is available to reduce iron, chrome, nickel, vanadium, and titanium on a commercial basis. This process promotes reduction of ores in localities heretofore ruled out due to the absence of coking coal and encourages the development of industry where large deposits of natural gas and the desired grade of ores are available. Described and illustrated.

X-Ray Examination of Welding—R. T. Foreman. *Welding Engineer*, May, 1942, pp. 39-41. X-ray examination is playing an important part in the development of welding techniques and inspection of welding in our war effort. Data on radiographic interpretation are given.

Heat Exchangers and Cooling Towers in Compressor Plant Installations—W. E. Dunn and H. R. Lamberth, *California Oil World*, 2nd May issue, 1942, pp. 12, etc. The use of heat exchangers and cooling towers in compressor plants generally covers engine and compressor jacket water, lubricating oil, and gas cooling. Cooling systems are classified as (1) open circulation systems, which include (a) raw water systems, (b) recirculating systems employing either open ponds, sprays, spray ponds, spray towers, atmospheric or mechanical draft towers or (2) closed circulation systems in which the substance to be cooled is passed through heat exchanger equipment and there cooled by water, air, or other medium. Atmospheric deck towers are the most acceptable for compressor plants, having high efficiency, flexibility, high capacity, and economy. Mechanical-draft towers have high first costs but are compact, efficient and independent of

natural air movement. The heat exchangers for closed systems are of three types (1) pipe coils, (2) open or atmospheric cooling sections and (3) closed or shell and tube exhangers. Of these the open type is most generally used in compressor plants, depending upon good water distribution and air movement. The paper is accompanied by characteristic flow diagrams for open and closed jacket water systems, and by graphs giving the approximate cost per compressor horsepower of open and closed systems for different rates of water circulation. Other graphs give pumping horsepower requirements of open and closed systems for different rates of water circulation. An A. P. I. paper.

Compressor-Absorption Type Gasoline Plant Produces Four Products—F. H. Love. *Petroleum Engineer*, May, 1942, pp. 149, etc. Manufacturing four products, natural gasoline, normal butane, isobutane, and propane. Warren Petroleum Corporation's compressor-absorption gasoline plant in the Cumberland field, Oklahoma, is now in operation. This is one of the several plants given high priority rating by the government last fall because of the need for isobutane, a product essential in the manufacture of 100-octane aviation gasoline. Described and illustrated.

Substitute Fuels as a War Economy—Gustav Egloff and P. M. van Arsdell. News Edition, *American Chemical Society*, May 25, 1942, pp. 649-658. Many types of motor fuels and substitutes are being used by the Axis powers. There is a decided stringency in the allowable use of even substitute fuels on account of the lack of raw materials, manufacturing facilities, and man power for their preparation. The relatively poor quality of the Axis fuels has curtailed the maneuverability of their automotive transportation, including airplanes. The successful conclusion of this war will be based largely on the superior quality and quantity of the motor fuels available to the United Nations in unlimited volume.

Engineering Study Determines Advisability of Pressure-Maintenance Installation—J. D. Collett, Jr. *Petroleum Engineer*, May, 1942, pp. 62, etc. Plant constructed in North Novice field, Texas, after well tests reveal feasibility of pressure maintenance as conservation measure.

Unsteady Flow of Vaporizing Hydrocarbons Through Unconsolidated Sand—T. Y. Ju and R. L. Huntington. *Oil Weekly*, May 25, 1942, pp. 28, etc. Part 2. Production rates for propane and butane. Part 1 in Feb. 23 issue.

Applications of Thermodynamics to Multicomponent Systems—B. H. Sage and R. H. Olds. *Industrial and Engineering Chemistry*, May, 1942, pp. 526-532. Some of the simpler applications of thermodynamics to multicomponent systems have been indicated. The utility of the chemical potential or the fugacity of a component in the estimation of the phase behavior of a complex system is discussed. Experimental values of the partial enthalpy of methane, ethane, and propane, in liquid phase systems containing a hydrocarbon liquid of high molecular weight are recorded for a range of compositions and temperatures. The application of the general energy equation for steady flow to the passage of heterogeneous mixtures through branch conduits is illustrated.

Testing of High-Pressure Gases—C. H. Gee. *Oil and Gas Journal*, May 14, 1942, pp. 62, etc. The purpose of this work was to complete the results obtained by the several different and widely used devices for obtaining a representative sample of gas from a distillate well when all were testing the same gas from the same well under identical conditions. All results were then to be compared with those obtained by full-scale separation in a high-pressure separator.

R.I. 3634—Oil-Reservoir Behavior Based Upon Pressure-Production Data, by H. C. Miller. U. S. Bureau of Mines, Washington, D.C.

ROPER'S Practical War-Time Service Plan

Thank you for the splendid volume of gas range business enjoyed by Roper for many years. Now Roper has stopped gas range production. We must concentrate on one important job—producing implements of war.

To help win the war it is important that Roper gas ranges be kept in tip-top condition. Write today for the Roper War-Time Service Plan as a practical, workable answer.

THIS NEW SERVICE HANDBOOK COVERS ALL PHASES OF SERVICING ROPER GAS RANGES

The new Roper service handbook covers Roper gas range operation from A to Z. It deals with top burners, ovens, broilers, ignition, safety pilots, etc. Numerous illustrations. Use this handbook as your guide in maintaining good customer relations. Cost—50c per copy.

GEO. D. ROPER
CORPORATION
GENERAL SALES OFFICE AND PLANT: ROCKFORD, ILLINOIS

Keep 'Em Cooking with GAS

BUY WAR BONDS

ROPER GAS RANGES FOR ALL GASES INCLUDING **(LP)** LIQUEFIED PETROLEUM GAS

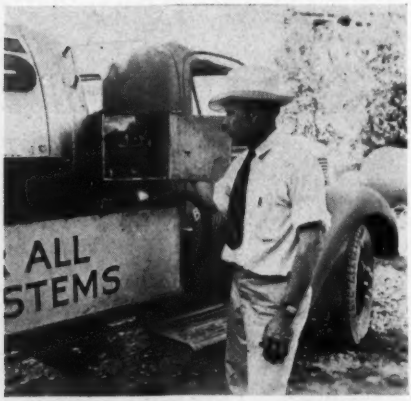
Gas Supplements Seasonal Business

BACK in 1933 E. R. Borden Co., Junction, Texas, began to look about him to find some other business that would dovetail with that of manufacturing ice and ice cream products. What he needed and was eagerly seeking was a business that would require special activity in the winter time when the ice and ice cream business was off and that would demand minimum effort in the summer when the ice and ice cream business was good.

He had tried the wood fuel business for a time but discontinued it when he found he was in competition with every farmer or rancher who wanted to load up his truck on Saturday and bring in a few cords of wood to sell to the retail trade. A price level could not be maintained under such conditions.

About this time he decided he would enter the butane field. His statement today is that he has never regretted the move and he recently has gone so far as to advise other friends in the ice business, who are similarly situated, to do likewise.

When he only had the ice and ice cream business he had to add to his employe force in the summer time and then lay off men in the winter time. Six helpers were employed in the summer and these had to be cut down to two in the winter period. He could not employ the highest grade of help under a condition of this kind for few people wanted to work in the summer and then be laid-off in the winter. Now, his manpower remains constant in summer and winter and he can select a personnel with greater care.



L. D. Borden, brother of E. R. Borden, and associated with him in butane business, shown as he examines Brodie ticket printing meter, on butane delivery truck.

Was Once a Manufacturer

Mr. Borden has handled various types and kinds of plants and at one time manufactured his own butane plants. Now, however, he handles only systems of other manufacturers.

From the first he began to lease his systems and this form of business continues to make up 95% of his business. Under his plan of operation the plant remains the property of the company. Upon the termination of any contract the company is permitted to remove the plant without interference. The consumer pays for the gas consumed in any billing period.

There is no other form of gas service except butane gas available in the town of Junction, a city of slightly more than 2000 population, so most of the customers of Borden Co. are located in or bordering upon the town. Actually, 100 out of approximately 160 customers served are located in the city. The fact that the majority of the users are clustered within the immediate territory greatly simpli-

BANKS TANKS DOMINATE

Here Are Some Things To Do TODAY That Will Help TOMORROW

By W. W. BANKS

In our business there are some factors over which we cannot exercise any control. Of course, we cannot do anything about those. On the other hand, there are many factors which we can control and which we can do something about. Some of these things which can be done now may be summarized as follows: Keep in close contact with wholesalers' representatives who travel your territory . . . keep in touch with appliance wholesalers in the large centers . . . study trade journals for new products and new merchandising ideas . . . write to manufacturers for information on items not seriously affected by the war program. Still another important thing is to continue calling on your customers regardless of present conditions. This is your opportunity to prove to them that you are definitely interested in their welfare by making sure that their appliances are giving good service. These calls, too, may result in the sale of other merchandise currently available.

These few suggestions are not intended to cover the entire field, but are offered in the sincere hope that they will stimulate other ideas that will be helpful.

OUR ORCHID DEPARTMENT

This department congratulates Mr. J. W. Martin on the outstanding job done for the industry as Gas Analyst with the office of the Petroleum Coordinator.

DALLAS TANK AND WELDING COMPANY, INC.
201-5 W. COMMERCE ST. DALLAS, TEXAS

fies the service and delivery problems. Some customers, however, are located as far away as 50 miles.

Borden Co. has installed numerous systems in the guest ranches in the territory. "Flying M" ranch, "V Bar H" ranch and "Hill Terrace" ranch are typical of these installations. Since electricity is not available at these ranches butane gets the lighting load as well as cooking and heating and in some cases the refrigerating load. A 1000-gal. system also serves the "Kimbell Courts", large, modern, tourist court in the city.

Gas is charged for on some systems by Rochester liquid gage measurement. Sprague meters are installed on other systems. A Brodie ticket printing meter is in service on the tank delivery truck. Distribution is made from a 4000-gal. bulk storage plant.

In addition to specific installations mentioned in the foregoing, gas is served in two churches, one school for the home economics department and several cafes and business houses in the city.

◆ ◆

New War Standards For Gas Water Heaters Available

Anticipating restriction of future production of gas water heaters to those designed to conserve strategic materials, American War Standard Approval Requirements for Gas Water Heaters, Z21.10 WS-1942, have been adopted by the American Standards Association. Sponsored by the American Gas Association, they were prepared and approved under the special procedure established for prompt development of war emergency standards. They will be in effect for duration of the emergency.

Revisions incorporated in these war standards cover mainly construction features. They are streamlined as far as possible consistent with safety and reasonable durability. No changes are made in any performance provisions with exception of one minor detail applying to storage vessels of assembled units. All safety and efficiency features are retained. In view of their modified construction, as compared with peacetime models, "utility" water heaters complying with provisions of the new standards must display the following inscription in addition to the Laboratories Approval Seal: "Approved Under War Emergency Requirements".

In addition to these war standards, three sets of new and revised gas equipment requirements were adopted as American Standard on June 5, 1942. These include new requirements for installation of gas-burning equipment in power boilers and revised editions of approval and listing standards respectively for gas refrigerators and gas valves. In view of the greatly increased use of gas for wartime industrial processes, adoption of a nationally acceptable installation guide for gas-burning equipment in power boilers is particularly significant. Special mention may also be made of the enlarged scope of gas valve requirements to provide adequate construction and performance tests for manual main gas control, pilot adjustment and pilot shut-off valves as well as gas burner valves formerly covered.

◆ ◆

D. E. Buchanan Is Named District No. 3 Director

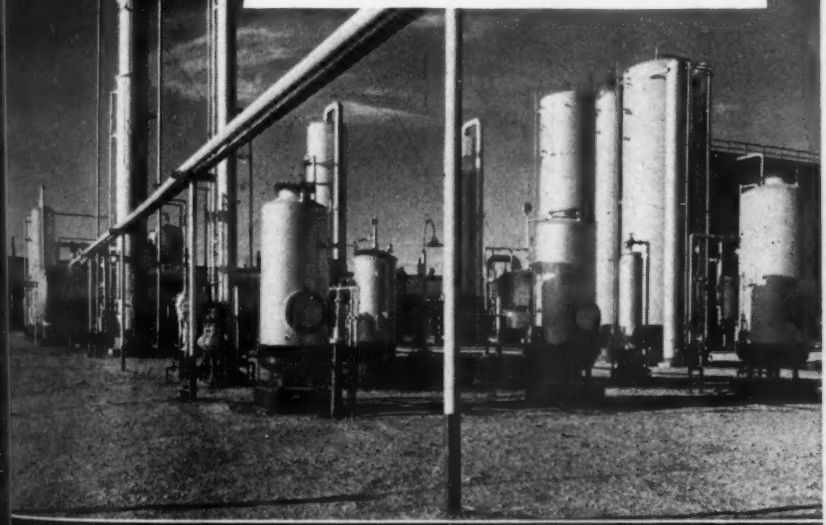
Deputy Coordinator Ralph K. Davies has announced the appointment of D. E. Buchanan, of Tulsa, Okla., as director in charge of the Office of Petroleum Coordinator, District No. 3, with headquarters in Houston, Texas.

Mr. Buchanan succeeds Grady D. Vaughn who has been transferred to Washington in connection with a nation-wide survey concerning the reclaiming of oil field equipment.

WARREN
LIQUEFIED PETROLEUM GAS

Meeting the motor fuel requirements for today's bombers and tanks, and gas for defense plants during the war is a big job and a great responsibility. All of us have an important part in the Victory program of our country and Warren welcomes its job as a privilege and a patriotic duty.

We have increased our facilities and our output to the maximum in order that we may also give our regular customers the best possible service and the same high quality of Butane and Propane.

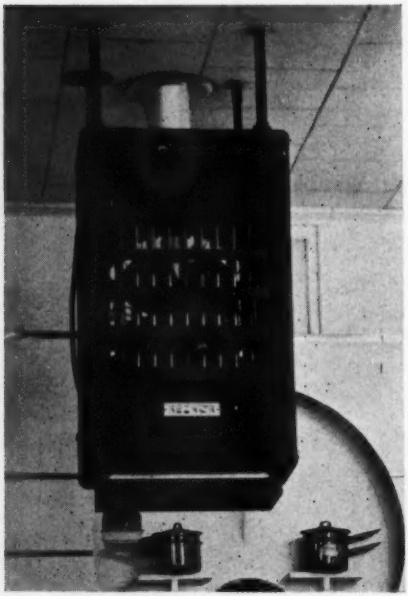


WARREN PETROLEUM CORPORATION

Tulsa, Oklahoma

Reznor Heaters Installed In Tennessee Store

The Sterling Store in Milan, Tenn., has three US 110 Reznor unit heaters, which were sold and installed by the Airlene Gas Co., of Fulton, Ky., before war restrictions stopped new installations.



A suspended Reznor heater in a Milan, Tenn., store.

The heaters, using butane gas, are suspended over counters and aisles to save valuable floor space, as shown in the accompanying photo.

◆ ◆

More A.G.A. Laboratories Men Join Service

Two engieneers of the Laboratories' Pacific Coast branch have received commissions in the armed forces. O. N. Simmons received the rank of Lieutenant, Junior Grade, in the naval reserve and J. J. Kavanaugh a Second Lieutenant in the army.

Lieut. Simmons was associated with the Laboratories for six years. During this time he was engaged in all phases of testing and inspection activities and became well known to West Coast manufacturers. He also participated in several research investigations including effects of high altitudes on operation of gas-burning equipment conducted at Lake Arrowhead, California, several years ago.

John J. Kavanaugh, a former member of the Pacific Coast branch, received his commission at Fort Sill, Oklahoma, in August. Inducted into the army in February, 1942, he was recommended for the Officers Training School in May. He is continuing to serve at Fort Sill.

The Cleveland Laboratories provided two men for the service during August. Albert J. Klika joined the staff in April, 1941, and resigned to enlist in the ground crew of the army air force. Herbert A. Taylor, a staff member since August, 1941, was inducted early in the month. Both were employed as draftsmen. This raises to twenty-four the names appearing on the honor roll.

Word has been received that B. A. McCandless, a former member of the staff, has been advanced from first lieutenant to a captain of field artillery.

◆ ◆

API Issues Revised Codes Of Sampling and Testing

Prepared under the general direction of F. E. Rice, chairman of the central committee on measuring, sampling and testing natural gas and natural gasoline, there have been issued revised editions of API Code 50-A and 50-B covering measuring, sampling and testing natural gas and natural gasoline, respectively.

New Gas Flow Orifice Calculator Now on Market

Developed especially for the fast and accurate checking of all factors involved in determining orifice sizes, the new W.B.P. Gas Flow Orifice Calculator, being marketed by the publishers of BUTANE-PROPANE *News*, is proving an invaluable aid to LP-Gas dealers, distributors, service men, salesmen and engineers.

With this new calculator there are eliminated the chance of error and the waste of time involved in the elaborate calculations formerly necessary to work out such problems as how to change the orifice sizes in converting a burner from manufactured or natural gas to LP-Gas, how to convert B.t.u. per hour to cu. ft. per hour of any gas from 300 B.t.u. per cu. ft. to 3300 B.t.u. per cu. ft., or how to estimate the amount of gas a burner can handle.

Using the calculator, the drill size necessary for a required B.t.u. input load can be quickly and easily determined merely by setting the scales and reading the answer. Orifice flows from sizes 1 to 75 in numbered drills, from sizes A to Z in lettered drills, and from sizes 2/64 to 32/64 in fraction drills, can also be readily found.

The Gas Flow Orifice Calculator makes computations and reference to supplementary tables unnecessary. All answers are read directly on the various scales. Easy to use and easy to carry, this new aid to LP-Gas appliance manufacturing and servicing calculations is priced low enough that it may be purchased in quantities to supply every member of a dealer or distributor organization with his own calculator.

◆ ◆

National Safety Congress Changes Meeting Date

Because the Government has taken over for military purposes the Stevens and Congress hotels in Chicago, the 31st National Safety Congress and Exposition will be held at the Sherman, LaSalle, and Morrison hotels on October 27-29.

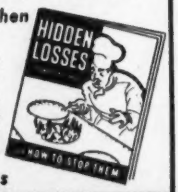
Headquarters will be in the Sherman.

This Highland, Ill., hospital is equipped 100% with butane-burning appliances.

ROBERTSHAW MANUALS
will help increase your sales

FOR DOMESTIC SALESMEN
"More Income from Gas Ranges"
How can your salesmen sell more gas ranges? This manual shows simply, graphically, convincingly. Thousands of salesmen have greeted it with enthusiasm, are putting it to effective use.

FOR COMMERCIAL SALESMEN
"Hidden Losses in Your Kitchen and How to Stop Them"
The latest developments in commercial gas cooking equipment are brought together in this manual, now used by many bottled gas dealers.



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YOUNGWOOD, PA.

VALVES
and
Accessories
for
Gas Burning
Appliances

THE W. J. SCHOENBERGER CO.
CLEVELAND···OHIO

Interstate Oil Compact Will Feature LP-Gas

Among the featured speakers who will address the Interstate Oil Compact Commission in Chicago Oct. 1-3 is G. L. Brennan, manager of the liquefied petroleum gas division of the Warren Petroleum Corp., of Tulsa, Okla. His subject will cover the development of the LP-Gas industry. This Autumn quarterly meeting will be held at the Palmer House.

The Interstate Oil Compact Commission is composed of representatives of 12 states and is stimulating increasing interest in natural gas problems, according to E. G. Dahlgren, technical secretary of the Research and Coordinating Committee.

◆ ◆

American Liquid Gas Corp. Reopens Chicago Office

American Liquid Gas Corp. has sent Carl Hammond, of the Los Angeles office, to Chicago to reopen headquarters for the firm there to serve the Midwestern market, according to an announcement of J. A. McNaughton, chairman of the company's board of directors.

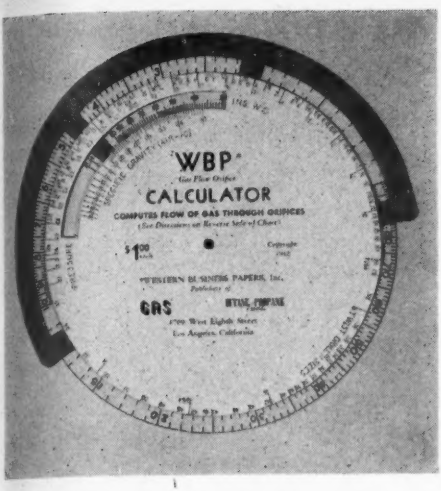
Needs of war production plants—many of which have recently contracted for Algas industrial installations—prompted the reopening of the Chicago office, Mr. Naughton stated.

◆ ◆

Manufactured Gas Restrictions Do Not Apply to LP-Gas

The recently issued (Aug. 25) WPB order L-174, denying the extension of manufactured gas service, does not apply to the use of LP-Gas when mixed with manufactured gas for industrial and domestic use.

Under such circumstances the result in gas is subject to the provisions of Order L-174.



NEW GAS FLOW ORIFICE CALCULATOR

Invaluable to LP-Gas Engineers, Shop Men, Domestic Appliance Service Departments, LP-Gas Appliance Manufacturers, and All Others Who Need to Check or Determine LP-Gas Orifice Sizes.

- **Easy to Use and Carry**
- **No Need for Calculations**
- **No Reference to Tables**
- **Just Set Scales and Read**

Ever had to convert an appliance from manufactured or natural gas to LP-Gas and needed to know what orifice size to install? Ever had to estimate how much gas a burner could handle? Ever had to convert B.t.u. per hr. to cu. ft. per hr., or vice-versa? Ever had to know the B.t.u. input load of an appliance or industrial burner? With the Gas Flow Orifice Calculator you can quickly and accurately work out all these and many other problems.

Checks all factors relative to orifice sizing for gasses from 300 B.t.u. to 3300 B.t.u. at pressures from .5-ins. to 15-ins. water pressure. Determines the flow of orifices from sizes 1 to 75 number drills, from sizes A to Z in letter drills, and from sizes 2/64 to 32/64 in fraction drills.

Priced for quantity purchase to enable you to obtain a sufficient number for everyone in your organization concerned with orifice sizing. Privilege to return within 10 days, for any reason, further assures your satisfaction. We pay postage on orders accompanied by remittance. Add 3% sales tax on California orders; 10% excise tax on Canadian orders.

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SPECIAL OFFER
25% DISCOUNT ON ALL ORDERS OF 25 OR MORE.

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Gentlemen: Please send me.....W.B.P. Gas Flow Orifice Calculators for which I am enclosing my check (or money order) for $.....

Name.....**Position**.....

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Address.....**City and State**.....

Standards Are Revised for Gas Welding, Fire Extinguishment

Standards governing the installation and operation of gas systems for cutting and welding and also those for foam and carbon-dioxide fire extinguishing systems were revised by the National Fire Protection Association at its 46th annual meeting held in Atlantic City, May 11-14. David J. Price, of the U. S. Department of Agriculture, was elected president of the N.F.P.A. for the coming year.

The revised standards apply to all gas welding and cutting systems and cover all gases used with oxygen for welding, cutting, heating, and heat treating operations. They do not apply, however, to systems in or upon cars or other rolling stock, or upon vessels. The committee on gases, of which H. E. Newell of the National Board of Underwriters is chairman, presented the report.

The fire extinguisher system standards were revised in order to cover the new developments in this equipment. A. L. Cobb, of the Eastman Kodak Co., is the chairman of the committee on special extinguishing systems which presented this report.

The foam systems use foam of two types. One is suitable for use on fires in flammable liquids not miscible with water such as petroleum and its products. The other is used on fires in liquids that are miscible with water, such as alcohols, esters, and acetone and it may also be used on petroleum products. When applied to fire, the foam blankets and smothers it. The standards adopted regulate the details of supply, mixing, discharge outlets, automatic release devices and maintenance.

Carbon dioxide systems release carbon dioxide gas which smothers fire by excluding oxygen from it. They operate by completely flooding enclosed space with gas, or by local application of gas on particular hazards.

◆ ◆

W. W. Livermore Jr., Joins Barrage Balloon Division

The many friends of W. W. (Bill) Livermore, Jr., former manager of the Macon branch of the Georgia Butane Gas Co., will be interested to hear that he has resigned to enter the United States army as a captain in the barrage balloon division, according to Herman Paris, president of the company.

Captain Livermore is no new hand at balloon work, having served in World War I as a lieutenant in the observation balloon division, although the war ended before he saw actual service.

For the PERMANENT REPLACEMENT of STRATEGIC MATERIALS
SARAN
CHEMICALLY RESISTANT TUBING AND FITTINGS BY
HODGMAN
Saran Tubing by Hodgman is a tough thermoplastic specialty made to replace strategic materials such as aluminum, stainless steel, nickel, copper, brass, tin and rubber. It is adaptable for use under high working and bursting pressures and is resistant to most chemicals. Its insulating qualities, flexibility and ease of handling make it extremely valuable in installations requiring the transport of oil, gas, air, water and corrosive chemicals . . . Flare type fittings of the same material make it possible to install a complete system with no more tools than a sharp knife and a Boring tool.
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HODGMAN RUBBER CO.
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Reduce Gas Cost and Insure Plant Operation with an ALGAS *Unit*

Let our engineers show you how an Algas Unit reduces gas costs of war production plants — and ***insures continuous operation*** should normal gas or fuel sources be shut off or damaged.

ALGAS
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"Think American"

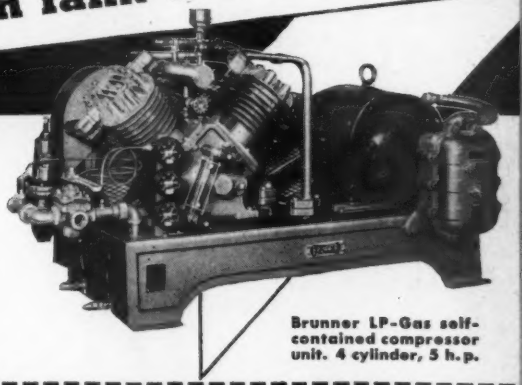
—Write for Literature—

American Liquid Gas Corporation

1109 South Santa Fe, Los Angeles

A PERMANENT CURE . . .

For LP-Gas losses in tank car unloading



Brunner LP-Gas self-contained compressor unit. 4 cylinder, 5 h. p.

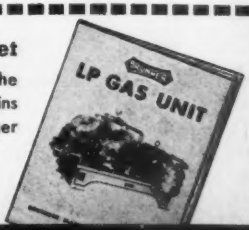
ericans on the home front have a big job to do. ides getting out war supplies, they must help serve vitally needed materials. Brunner LP-Gas s enable industrial users, bulk station plants and ributors to recover an additional 500 to 1000 lbs. liquid petroleum gas per tank car unloaded. s saving in tank car vapors helps to build a huge serve of this much needed LP-Gas. Let us tell you ut the Brunner unit, today. Brunner Manufactur- Company, Utica, New York, U. S. A.

BRUNNER

OVER 30 YEARS THE SYMBOL OF QUALITY

Write for FREE Booklet

The new booklet describes the Brunner LP-Gas Unit, contains illustrations, diagrams and other pertinent facts on handling liquid petroleum gas.



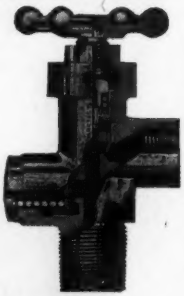
BUTANE and PROPANE
TANK HEADS

A.S.M.E. type
for the manufacturers of
BUTANE & PROPANE TANKS
* * * * STANDARD RADIUS * * * *
* * * * * 80% RADIUS * * * * *
* * * * * ELLIPSOIDAL * * * * *

DIAMETERS UP THROUGH 60"
THICKNESS UP THROUGH 1/2"
Write for Head Catalog

The COMMERCIAL SHEARING & STAMPING COMPANY
YOUNGSTOWN, OHIO.

Control
PROPANE-BUTANE
CYLINDERS
THIS POSITIVE WAY—
KEROTEST
PROPANE-
BUTANE
CYLINDER VALVES *are:*



- **DIAPHRAGM PACKLESS**—require least maintenance.
- **SAFE**—automatic safety-vent releases *only* excess pressures.

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KEROTEST
KEROTEST MANUFACTURING COMPANY
PITTSBURGH PA

Copper From Idle Inventories Keeps War Plants Working

Transfers of copper from idle and excess inventories to producers needing this critical metal for the manufacture of munitions, planes, tanks and other implements of war, are aiding hundreds of war plants to maintain schedules and, in many instances, preventing complete shutdowns when emergency shortages occur.

This was revealed Sept. 9 when the Inventory and Requisition Branch of the War Production Board announced that 29,700,000 lbs. of copper and copper base alloys have been allocated from immobilized stocks to war production channels through the WPB's copper recovery program, instituted eight weeks ago.

◆ ◆

Natural-Gasoline Production Increases to 219,000 Bbl. Daily

Daily average production of natural gasoline and allied products increased to 219,000 bbl. in June compared to 217,000 bbl. in May. Natural gasoline output in June 1941 averaged 170,000 bbl. daily.

Output of liquefied petroleum gas continued to increase in June and was 50,946,000 gal., compared with 48,426,000 gal. in May, a daily average of 40,435 and 37,195 bbl., respectively.

The daily average production of natural gasoline and allied products for the first 6 months is 225,000 bbl., compared with 164,000 for the same period last year.

◆ ◆

California Production Rate Is Gaining

Natural gasoline production in California increased to 35,674 bbl. daily in July, a gain of 1279 bbl. over the average output in June.

WE'RE RESTING ON OUR LAURELS — Just Temporarily!

There's a relative who rates 100% of our output these days. His name is Sam and we're proud to be able to lend him a hand. But we're seeing to it that present Blodgett installations stay tuned to present baking and roasting demands. To keep your Blodgett equipment fit, send us the number or numbers of your customers' ovens, and we will send you a list of repair parts, instruction card and operating procedure.

We pledge our cooperation to help you "Keep 'Em Cooking"—until you can buy new Blodgett Ovens once again!

THE G. S. BLODGETT CO., INC.

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Payne FURNACE & SUPPLY CO., INC., BEVERLY HILLS, CALIFORNIA

For Safety
and Economy

ETHYL MERCAPTAN

—Purified—

The ACCEPTED standard odorant for liquefied petroleum gases.

MALLINCKRODT CHEMICAL WORKS

ST. LOUIS NEW YORK

AMERICAN

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BUTANE AND PROPANE TANKS

AMERICAN

PIPE & STEEL CORPORATION

Manufacturers and Distributors

ALHAMBRA CALIFORNIA

Butane Chosen For Fuel For Preheating Coke Ovens

American Liquid Gas Corp., of Los Angeles, has received a contract to construct a butane gas system at the Kaiser Co. steel plant now being built at Fontana, Calif. The system will supply butane gas for the preheating of the coke ovens.

Equipped to supply 50,000 cu. ft. of gas per hour, the system will be temporary and will be removed as soon as the required temperature in the coke ovens has been reached and maintained. Gas coming off the coal will be used as the permanent fuel.

Butane was chosen as the preheating fuel because of its availability and dependability. Engineers in charge of the job state that the fuel supply must be assured as the heat in the ovens must be constant. In the event of fuel failure, the hot bricks would disintegrate.

◆ ◆

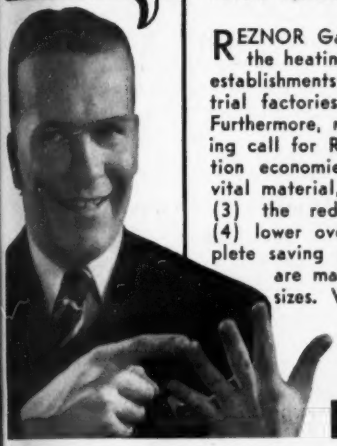
Cleveland Laboratories Staff Holds Annual Outing

The 15th annual picnic of the A.G.A. Testing Laboratories staff was held Aug. 29, at the Pine Ridge Country Club, located near Cleveland. Seventy-three persons attended, including the wives and families of the staff members. Such prizes as were given were all in war savings stamps. A large proportion of the normal expenditures were conserved to purchase Christmas gifts for Laboratories employes now in the armed services.

Following a buffet dinner and after-dinner festivities, handled by the toastmaster, K. H. Flint, assistant chief testing engineer, R. M. Conner, Laboratories Director, discussed briefly the growing operations of the War Products Department and the encouraging progress being made on its present assignments.

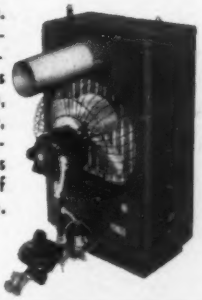
5 INSTALLATION ADVANTAGES

with REZNOR SUSPENDED UNIT HEATERS



REZNOR Gas Fired Unit Heaters answer the heating demands of Army and Navy establishments as well as countless industrial factories operating on war contracts. Furthermore, new construction and remodeling call for Reznor's 5 outstanding installation economies: (1) the use of 89% less vital material, (2) the need of fewer men, (3) the reduction of construction time, (4) lower over-all cost, and (5) the complete saving of floor space. Reznor Units are manufactured in a full range of sizes. Write today for complete data.

BACK VIEW



REZNOR MFG. CO.
304 James St. Mercer, Pa.

"GAS HEATERS EXCLUSIVELY SINCE 1888"

For Greater STABILITY

IN DEHYDRATED BUTANE AND PROPANE

A Higher Quality Product . . . . A More Dependable Source of Supply . . . . A Product that will secure for you a list of customers more satisfied with a fuel giving trouble-free and efficient service . . . . try Carter Propane and Butane.

Write for complete information to: The Carter Oil Company, Marketing Department, Room 928, National Bank of Tulsa Building, Tulsa, Oklahoma.

DEHYDRATED
Propane and Butane

THE CARTER OIL COMPANY

TULSA, OKLAHOMA
Shipping Points: Seminole, Okla., Stonewall, Okla., St. Elmo, Ill.
WHOLESALE ONLY!

Commercial Vehicle Control Ordered by ODT for Nov. 15

The nation's entire transportation facilities, except railroads, airlines and private automobiles, will be placed under strict government wartime control on Nov. 15, according to an announcement of the Office of Defense Transportation on Sept. 8. The purpose is to conserve equipment, and more than 5,000,000 vehicles will be affected, including 4,890,000 non-military trucks, 154,000 buses and 50,000 taxicabs.

The order, designated as General Order, ODT No. 21, will govern the maximum mileage that may be operated or minimum loads carried, or both, and no operator subject to the order will be able to obtain gasoline, tires or parts without a certificate. However, the possessing of such a certificate does not necessarily qualify the holder to obtain tires unless he also comes under the tire eligibility list.

The order includes rationing of gasoline, tires and parts for such vehicles, and compels operators to keep strict account of mileage and loads.

Officials state that the order will put "teeth" into existing ODT regulations requiring a 25% reduction in local operations of common carriers; loading to capacity for most over-the-road trucking, and the elimination of call-backs and special deliveries by private and contracted carriers.

◆ ◆

Retail Dealers' Statements Were Due by Sept. 10

The statements of retail dealers handling gas appliances (except gas furnaces, industrial equipment, unit heaters, or water heaters) required by the War Price and Rationing Board should have been filed with local boards by Sept. 10.

Those who have failed to comply should ask local boards for copies of Maximum Price Regulation No. 165, as amended.

Employes of Green's Fuel, Inc., Sarasota, Fla., in front of company headquarters.

SPRAGUE METERS

for

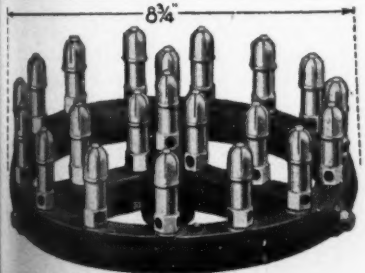
PROPANE - BUTANE SERVICE

•

Write for Particulars

SPRAGUE METER COMPANY

Bridgeport, Conn.
Los Angeles, Calif.
San Francisco, Calif.



No. C 210 Barber Burner

BARBER APPLIANCE BURNERS

The burner is the heart of the appliance. Barber Units are correctly designed, with the proper jets, to fit the individual appliance, and give complete combustion on Butane-Propane Gas. Appliance makers and fuel distributors assure better service and economy for their customers by recommending the use of Barber Burners. Submit your burner problems to us. Catalog of complete line on request.

THE BARBER GAS BURNER CO.
8704 Superior Ave. Cleveland, Ohio

This Little Booklet MAY Save YOU TIME, MONEY and PUMPS

When pumps are hard to get it's wise to take good care of the ones you have. The Viking Service Manual is a handy, illustrated booklet that tells you how to get utmost performance out of Viking Rotary Pumps. It explains and pictures correct installation . . . shows you how pumping efficiency may be stepped up . . . suggests how some repairs and replacements may be avoided.

Gain valuable help in your pumping operations by consulting the Viking Service Manual. It is offered to you FREE. Your request for a copy will be filled by return mail.

VIKING PUMP COMPANY

CEDAR FALLS, IOWA

Tank trucks are made to travel. Do not tie up this expensive equipment at the pump. For fast delivery, longer service and No Leaks, install SMITH Butane - Propane PUMPS—standard equipment for LP-Gas loading and transfer and for bottle filling.

SMITH *Precision Products* COMPANY
1135 MISSION ST. - SOUTH PASADENA, CALIF.

"KEEP 'EM FRYING"
USE PITCO
Frialators
REG. U.S. PAT. OFFICE
SAVE FAT . . . GAS . . . SPACE

Deep-Fat Frying at Its Best

★ Customers can serve a wider variety of fried foods.
★ Left-overs or by-products quickly converted into daily specials.
★ Increase in customer business means increase in the gas load.
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Model LP-Gas Laboratory For W. Va. University

As a fitting tribute to the opening of the institution's 76th academic year, West Virginia University will dedicate on Oct. 16-17 its new million-dollar mineral industries building.

Begun in 1940, the building embodies factors which make it the fulfillment of the dreams of the scientist, engineer, teacher, and student. It houses the school of mines, the West Virginia geological survey, the department of geology, and the department of chemical, metallurgical, and ceramic engineering.

The oil and gas laboratories have specialized equipment for analyzing both petroleum and natural gas by fractional distillation — a process through which is measured the content of such hydrocarbons as butane —raw material for synthetic rubber— ethane, methane, propane, etc., in natural gas and petroleum.

◆ ◆

CNGA Members Hear Plant Equipment Discussions

At the Sept. 3 meeting of the California Natural Gasoline Association in Downey, Calif., the speakers emphasized the practical and engineering factors bearing on the use of existing natural gas plant equipment to manufacture isobutane for 100 octane aviation gasoline and the building of new gas plant equipment for the recovery of propane.

The titles of the papers read and the authors follow: "Using Existing Gasoline Plant Equipment for Maximum Isobutane Recovery," by Glenn H. Hile, gas engineer, Standard Oil Co. of California, and "Design of the New Gasoline Plant Equipment for Recovery of Propane," by Henry N. Wade, president, Parkhill-Wade, Los Angeles.

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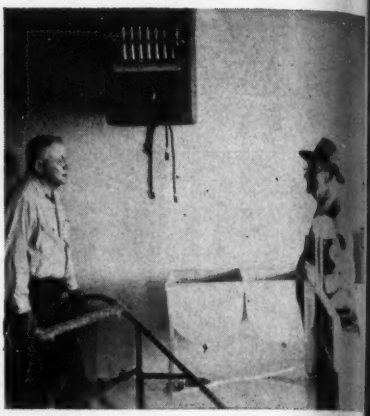
Texas Cafe Owner Saves $20 Monthly With Butane

Felix Kloerner, proprietor of the City Cafe, Fredericksburg, Texas, said recently that if he could not get butane he would feel like closing up his profitable restaurant. He has used butane now for five years and estimates it saves him $20 per month over fuels formerly used. With butane he operates a steam table, a Frialator, a hot plate, and a coffee urn and has changed over an electric dish washer to burn butane. His installation was sold by and is serviced by Felix W. Maier Machine Shop, which has the agency for Vapo gas plants.

Mr. Maier mentioned several other important installations in the city. These include the heating and air conditioning plant in the home of Dr. Herbert Pfeiffer wherein two Bryant floor furnaces and a circulating heater are installed. A 285-gal. plant is installed at this home.

Twenty-one Bryant floor furnaces are installed in "Ranch Mo-Tel", a new, modern, tourist court. The management of this court advertises the fact that their apartments are equipped with automatic gas heat. General Controls are used with the installations. Fredericksburg is a city of 4000 population.

Felix Kloerner, proprietor, City Cafe, Fredericksburg, Texas (left), and Felix W. Maier, butane dealer standing beside "Pitco Frialator."



Felix Maier wheeling specially designed truck he had built for moving refrigerators. Bryant circulation heater is shown suspended from ceiling.

Another butane dealer in Fredericksburg (former home of Admiral Nimitz, current war hero), is Otto Kolmeier & Co., who handle Hydro-Gas Systems. H. A. Lochte is proprietor of this firm.

◆ ◆

Scrap Iron Badly Needed From Every Industry

In every industry there is danger that vital war materials may be going to waste, or may be lying idle because individual companies have not made a sufficient effort to salvage every bit of scrap that can be found, according to the American Industries Salvage Committee.

Scrapping obsolete machines and equipment and cleaning out all idle metal are urged.

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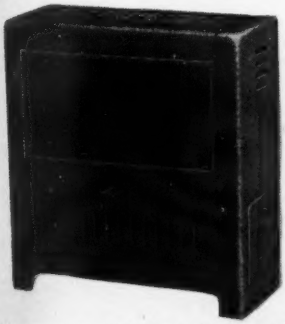

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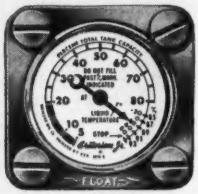

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Formulas Issued to Simplify Pricing of Frozen Materials

Formulas designed to simplify the pricing of idle or frozen materials sold under Priorities Regulation No. 13, of the War Production Board, thus further facilitating the flow of such materials into war uses, were announced Aug. 15 by Price Administrator Leon Henderson.

The formulas are contained in Maximum Price Regulation No. 204, which became effective Aug. 20, 1942, Idle or Frozen Materials Sold under Priorities Regulation No. 13

"Maximum Price Regulation No. 204 is based on the principle that no purchaser of idle or frozen inventories should pay a price in excess of the price which he would be forced to pay had he purchased such materials from a regular supplier," said Mr. Henderson.

Priorities Regulation No. 13 covers all materials, including every material which has, at any time, been made subject to a War Production Conservation or Limitation Order. Sales of idle or frozen inventories are facilitated in No. 13 by liberalization of many of the previous limitations. Hence, large quantities of materials which until now have lain idle can be made available for war uses.

"Idle or frozen materials" are defined in the Price regulation as "any commoditiy, accessory, part, assembly or product not in a form normally sold by the seller in the ordinary course of his business and sold or delivered pursuant to Priorities Regulation No. 13. It does not include any raw or unprocessed agricultural commodity."

◆ ◆

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M. R. King, manager of the Shelgas Co., Maywood, Ill., has been called to service with the U. S. army air corps

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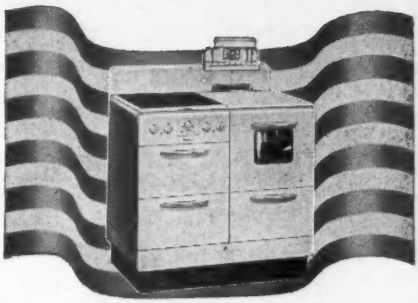

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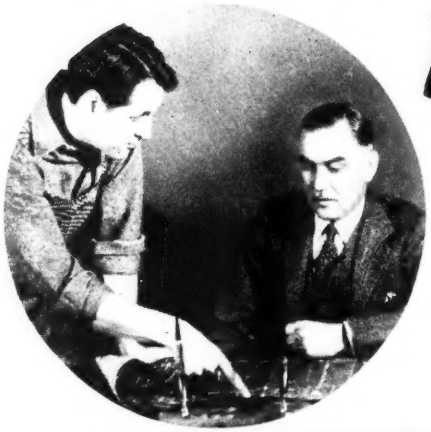

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